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ORIGINAL ARTICLES.

THE IMPORTANCE OF EARLY TREATMENT IN CUTANEOUS MALIGNANT EPITHELIOMATA.¹

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THESE remarks will deal principally with the pathologic processes of cutaneous malignant epitheliomata; a consideration of the nature of the changes taking place in the tissues of the parts affected by the disease; how far our knowledge of these changes explains its clinical symptoms and course; what advantage is thereby gained in making a judicious choice and proper application of therapeutic measures; and, furthermore, what assistance a knowledge of all these things brings in support of the view that has been formed upon clinical observation that the earlier a cancer is properly treated for its removal the greater are the chances of cure.

Two or three years ago I read a paper upon the treatment of cutaneous cancers, and endeavored to prove that both from a theoretical and practical standpoint the majority of the cases should be treated by appropriate caustics in preference to removal by incision, and I take this opportunity of again stating my firm conviction of the correctness of the view stated and defended at that time.

Although all authorities are agreed that early treatment is proper and advisable in all cases of cancer, yet I can assure you that in an experience of many years, during which I have paid a great deal of attention to the subject, the majority of the cases which have come under my observation have had an unquestioned existence of many months or years, the disease being heedlessly allowed to progress to such an extent as often to have caused much deformity or deep and wide destruction of tissue, or even to the production of lymph-gland infection, although, as a rule, the patients have been more or less under the observation of one or more physicians. On account of this experience I have thought it proper, and possibly of some advantage, to discuss the value and importance of early treatment of cutaneous malignant epitheliomata, and to urge anew upon the profession

the necessity and moral obligation of the prompt and proper treatment of this disease. I am satisfied that whether a cancer be situated upon the lips or cutaneous surface, proper treatment at an early stage usually enables the physician to give a favorable prognosis. Upon these grounds I now venture to discuss the subject, and trust the reading of this paper will be justified by the great importance of the subject.

A cutaneous or other cancer is at first a purely local disease, and not a local manifestation of a constitutional or general condition, therefore, a complete removal of the primary lesion before the disease has invaded other parts of the body is equivalent to a complete removal of the cancer from the body. Accepting this view as correct, our task is to consider the natural history of the disease, how it arises and progresses in its destructive course, and the factors or conditions which favor a rapid extension and hasten a fatal termination.

Cancers of the skin are usually described as occurring in three clinical forms: the superficial discoid, the papillary, and the deep or infiltrating. This division is of some advantage from a clinical standpoint, although it is not absolutely correct, as a primarily superficial cancer may have become deep before coming under the observation of a physician, or a primarily deep one may have become superficial, or either may have become papillomatous.

An epithelioma may commence as a scaly, eczematous-like lesion, or as a vesicle, papule, wart, tubercle, or nodule, and only close observation will enable the diagnosis to be made in some cases. The view that the seat of origin gives a type of form to the growth, the deep-seated nodular forms arising from the glands and follicles of the skin, and the superficial discoid ones from the epidermis proper, is not always correct, as many of the deep-seated, rapidly infiltrating epitheliomata arise from the rete. Furthermore, clinical observation does not enable the physician to state in a given case the structure from which the disease started. The clinical forms rather depend upon the seat of growth, the rapidity of the epithelial proliferation, the direction of its extension, the resisting power of the surrounding tissues, as well as the inflammatory or other changes occurring in the tissues of the affected part.

In all cases of malignant epitheliomata there are :

¹ Read at the meeting of the Northwestern Medical and Surgical Society, December 16, 1896.

1. An abnormal and excessive proliferation of epithelium.

2. The proliferation is an atypical one and is associated with the production of a poison which injures the surrounding tissues.

3. Changes, usually of an inflammatory character, occur in this surrounding connective tissue, lessening its resisting powers.

4. Invasion of the connective tissues by the new epithelial elements by way of the lymph-channels, and a tendency in the great majority of cases to secondary infection of lymphatic structures.

It seems that carcinomata contain a poison, a toxin—as shown by experimental injections and implantations of cancerous material—which injures connective tissues, differing in this respect from the benign epitheliomata. The more rapid the epithelial proliferation and the deeper seated the growth the sooner the connective tissue is likely to be invaded and lymph-gland infection to occur, since the amount of poison formed is in proportion to the rapidity of proliferation, and the injury to the connective tissue is in proportion to the amount of poison. As the *pars reticularis corii* offers considerable resistance to invasion as compared with the deeper and looser connective tissue, the deeper situated the cancerous growth the more rapid the invasion through the lymph channels.

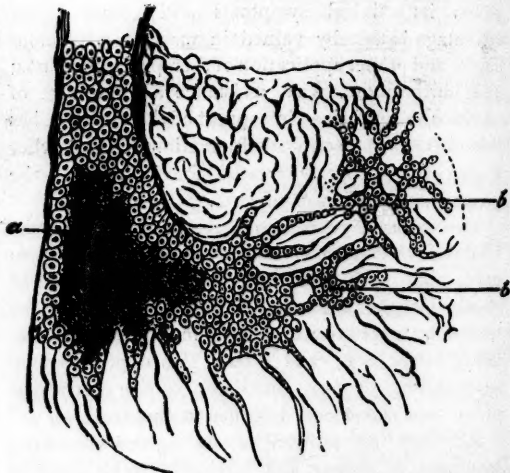
Injury to the connective tissue of the part, from whatever cause, producing a more vulnerable condition of the tissue than that already caused by the epithelioma, favors a more rapid extension of the disease and should always be borne in mind when treating a case of this kind. The application, for instance, of a mild caustic, such as nitrate of silver, to an epithelioma, cannot destroy the growth except to a slight extent, even in the case of small and superficial cancers, but it acts injuriously upon the surrounding connective tissue, the nutrition of the part is lowered, and the vulnerability correspondingly increased, thus favoring epithelial invasion. How often have cases of epithelioma of the lip, skin, or cervix uteri assumed a rapidly progressive character in consequence of this meddling, injurious treatment? The method employed should always be effective and thorough; better no treatment whatever than one that is not only valueless for the object desired but hastens epithelial proliferation, invasion, and extension.

The epithelia of cancer can travel through lymph channels without causing any appreciable sign of inflammation in the part, or requiring a condition of inflammation to precede the invasion. This is shown particularly in connection with secondary invasion of the skin following mammary cancer. In some cases

of slowly progressing superficial discoid epitheliomata the inflammatory changes may be scarcely observable to the unaided eye, and even on microscopical examination may present very slight signs of injury to the part—mostly signs of formative action, demonstrating that the resisting power of the connective-tissue has not been much impaired. If, however, the patient injures such an epithelioma by scratching, or in shaving, or by the use of a mild caustic, an erosion or ulcer forms, and the toxins from the pus organisms, intensifying the inflammatory process, increase the vulnerability of the corium and favor epithelial growth and invasion.

As this condition is liable to occur at any time, it follows that every epithelioma should be radically treated as early as possible after a diagnosis has been made. After ulceration has occurred and epithelial invasion is more advanced, the area to be destroyed in

FIG. 1.



Acinus of a mammary gland showing growth of cancer and infiltration of surrounding tissue (after Waldeyer).
a, Lumen of acinus with proliferating epithelium; b, epithelia traveling through lymph channels and infiltrating periglandular tissue.

treatment for removal of the disease is greater and a reappearance of the disease more probable. In this connection it must be borne in mind that the pathologic epithelia are capable of independent locomotion and may travel some distance from the place of origin. In the deeper-seated forms the inflammatory changes are greater than in the superficial ones in consequence of the rapid proliferation of the epithelia and its consequent production of poison. As the resisting power of the deeper parts of the corium is less than that of the papillary portion the malignant processes always progress rapidly and soon invade the lymphatic glands; hence, such cases require early

treatment if a favorable result is to be obtained or to be expected.

Lymph-gland infection never occurs in rodent ulcer, and sometimes a superficial flat epithelioma may exist twenty years or longer without invading lymph glands, or even disappear without known surgical interference. When the epithelioma is situated upon the penis, lips, certain parts of the face, as just in front of the ear, infection is certain to occur, and takes place earlier than when the disease is seated upon the nose, ear, or eyelids. Of course an exception to this rule is occasionally observed.

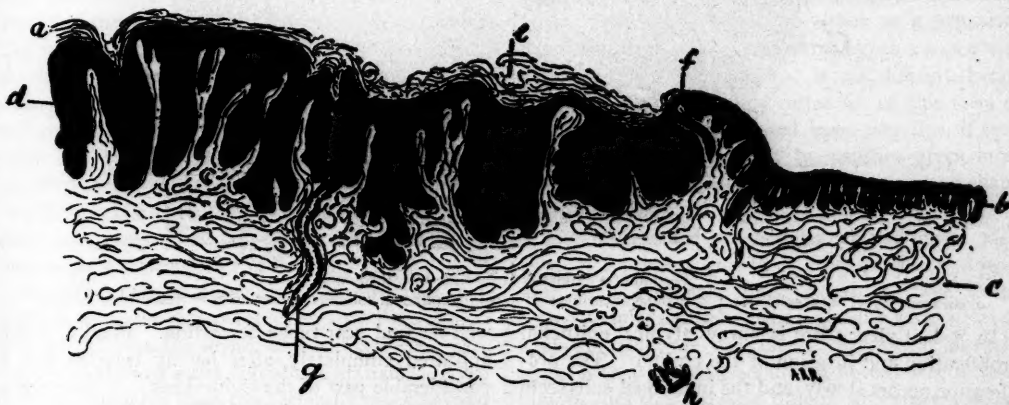
After these general considerations on the subject, let us consider the manner in which the disease extends at the seat of a primary lesion. In Fig. 1, from Waldeyer, is shown the manner of extension in cases of mammary carcinoma.

of the breast before the basement membrane has been penetrated, if a diagnosis could be made at that time. After that period the earlier the operation the greater the chances of being able to remove all of the disease.

The same method of extension, as above described, takes place in cutaneous cancer, where, with the exception of glands and follicles, there is no basement membrane to be penetrated. The majority of cutaneous epitheliomata start from the epidermis proper and not from the glandular structures. At first the growth is sharply limited, but sooner or later there is invasion of the corium and subcutaneous tissue. In Fig. 2 is shown, under a low power, a section of a very slowly spreading superficial epithelioma, which had already lasted several years, but still gave no signs of secondary lymph-gland infection.

The section shows the thickened epidermis and

FIG. 2.



Section of a Superficial Cutaneous Epithelioma.

a, corneous layer; b, normal rete; c, corium; d, epitheliomatous growth from rete; e, hair follicle orifice area; f, macroscopical limit of morbid growth; g, excretory sweat-duct; h, coil of sweat-gland.

The drawing represents a terminal acinus and shows the epithelia arranged in an irregular, abnormal manner, and filling up the greater part of the lumen. The basement membrane of the acinus at its blind extremity has disappeared and the pathologic epithelia have invaded the periglandular tissue. The changes occur in the following manner: First, there is an abnormal proliferation of the glandular epithelium; then destruction of the basement membrane; and, finally, invasion of the surrounding tissue by way of the lymph channels. The drawing shows how the epithelia invade the tissues, as soon as the basement membrane is broken through, extending gradually in an irregular manner far into the periglandular tissue in the form of columns of epithelia or as single cells. Cancer elements had no doubt extended much beyond the limits of the section here represented. The most successful treatment for all cases of mammary cancer would clearly be amputation

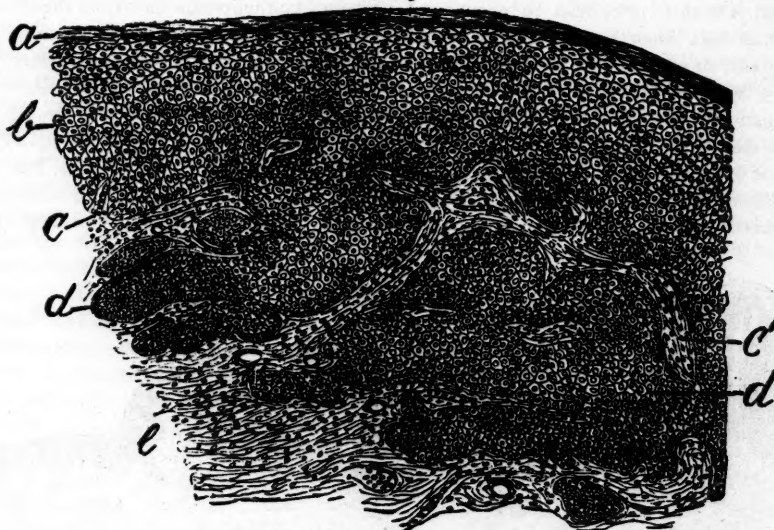
enlarged papillae from downward growth of the rete. Note the slight change at the periphery as compared with the older part of the growth. The section includes a considerable piece of tissue—all beyond f—apparently normal to the naked eye. Microscopic examination showed atypical epithelial proliferation rather sharply limited at f, with epithelial invasion of the corium increasing in amount and depth toward the central part of the tumor. In these cases, as in cases of mammary cancer, there is first an atypical proliferation of the epithelium of the part, then invasion of the corium, slow at first, on account of the strong resisting power of the *pars reticularis corii*, and rapid when the deeper and looser connective tissue is reached. The same rule must hold true in these cases as in cases of mammary cancer, to wit: the earlier the growth is treated the more favorable the prognosis, and the less the deformity as a consequence of the necessary treatment.

In the deep-seated nodular epitheliomata, the growth is much more rapid and the invasion of the corium occurs much earlier than in the form just described.

In these cases the surgeon should always act with promptness, lest secondary lymph-gland infection occur, and the case terminate fatally.

sion in a lateral direction, instead of in the depth, and, finally, may disappear spontaneously. I once saw a case in a man, now over eighty years of age, which I watched for fifteen years, the patient refusing treatment. During that period the ulcer spread over an area about two inches in diameter, never showing any signs of ulceration, although causing

FIG. 3.



Section of a Primarily Deep-seated Epithelioma.

a, corneous layer; *b*, atypical rete; *c*, papillae of corium; *d*, invading epithelial columns; *e*, corium with leucocyte infiltration.

In rodent ulcer there is always atypical epithelial proliferation and invasion of the corium. The proliferation occurs slowly, and the individual cells seem to keep their filamentous connection with each other more than in the other forms of malignant epitheliomata. The invading cells usually form well-marked columns or cylinders, as shown in Fig. 4.

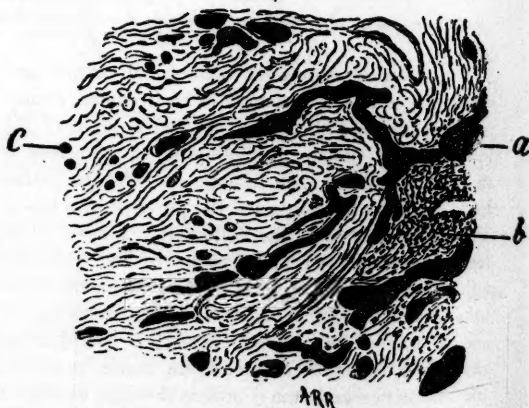
Having drawn your attention to the fact that in connection with the growth of the cancer, a poison is formed that causes inflammatory changes in the surrounding connective tissue; that the more the tissue is inflamed the easier it is invaded by the epithelia; that the greater and deeper the lymph-channel invasion the greater the danger of lymph-gland infection; it must appear clear to all that the earlier an epithelioma is treated the easier the task of removal, the less the necessary deformity from the operation, and the less the chances of a reappearance.

Let us, at the risk of some repetition, utilize the foregoing statements in a brief consideration of the clinical forms of epithelioma.

The superficial form can arise as a warty lesion, papule, erosion, or a scaly patch, and remain many years without attaining a greater size than that of a pea or bean. It shows a marked tendency to exten-

sion in a lateral direction, instead of in the depth, and, finally, may disappear spontaneously. I once saw a case in a man, now over eighty years of age, which I watched for fifteen years, the patient refusing treatment. During that period the ulcer spread over an area about two inches in diameter, never showing any signs of ulceration, although causing

FIG. 4.

Section of Peripheral Part of a Rodent Ulcer (Cylindrome).
a, columns of epithelia in lymph channels; *b*, small-celled infiltration; *c*, small column cut transversely.

case in a woman, about fifty years of age, in whom the disease had, within a few years, extended from one side of the forehead to the other, leaving a

cicatrix about three inches in length and one-third of an inch in diameter, and finally disappearing spontaneously. If all cases of superficial epithelioma ran such a favorable course, early treatment would not be necessary, but, unfortunately, such a course is a rare exception, and not the rule. I here show you a photograph of a case which, after lasting twenty years as a superficial epithelioma of the pearly variety, has commenced to extend into the deeper parts of the corium, and to encroach upon the eyes, and, if not promptly treated, will finally prove fatal. I also show you photographs of somewhat similar cases, and I have seen not a few where a fatal result followed on account of neglect on the part of the patient, or inefficient measures employed in the treatment.

I once saw a case which commenced as a papule on the lobe of the ear, and was treated by a physician with nitrate of silver, under the belief that it was not a cancer, but some non-malignant growth. The caustic, naturally, did not destroy the whole of the tumor, and within a few months there was secondary infection of the lymph glands of the side of the neck just below the ear, although the primary lesion had changed very slightly. Such a case is not often seen, yet the possibility of its occurrence should always be remembered by physicians. How easily such cases could be cured when seen at an early stage and properly treated.

In another case, a cancer that was not larger than a pea in size and macroscopically very sharply limited, started from the sheath of a hair follicle. Section of this showed great epithelial infiltration down to the subcutaneous tissue, and laterally much beyond its limit, according to the naked-eye appearance. I partly removed the lesion with a cutaneous punch, and then immediately applied a paste of arsenious acid, with satisfactory result.

In still another case the course of the disease was very rapid; the first lesion, commencing as a superficial eczematous-like patch, quickly assumed a malignant form, and proved fatal within a few months. The first lesion appeared upon the left cheek, and in a few months others formed upon the forehead, nose, and right cheek, with rapid destruction of the tissues and early infection of the lymphatic glands in front and below the right ear. An early diagnosis and prompt treatment would probably have cured this patient, but when I saw her operative measures, either by knife or caustic, were useless. I have seen other cases of this very malignant form, the *épithéliome foudroyant* or *épithéliome térébrant* of French writers, and they demand early and prompt treatment. I do not wish to be understood as saying that a cure cannot be obtained in quite a number

of cases after the deep corium has been invaded, as I myself have frequently seen and cured such cases, but the earlier they are treated the more favorable is the prognosis. As the majority of all cases of cutaneous epitheliomata belong to the superficial form, proper treatment at an early stage robs the disease of much of its reputed gravity.

The superficial papillomatous form requires for its production a rapid proliferation of epithelium. It is seen principally upon mucous membranes and on the extremities. These tumors are not papillary in structure as is generally supposed, but assume the papillomatous form on account of the rapid epithelial proliferation. In connection with this rapid epithelial proliferation there is a large amount of poison formed, with consequent injury to the connective tissue, and when the barrier—the *pars reticularis corii*—is once broken there is rapid invasion of the corium, with early secondary lymph-gland infection. In an early stage, however, either as a primarily papillomatous growth, or as secondary to a superficial flat epithelioma their removal is not difficult, hence early treatment is strongly called for in this form of cancer. Even when situated upon the lips, if seen early, a suitable treatment by caustics gives most satisfactory results, both as regards cure and shape of lips afterward.

The deep-seated or nodular epitheliomata may occur as a primary growth or from extension downward of a superficial one. Some of these deep-seated nodular epitheliomata, especially when situated upon the scalp, are difficult to diagnose at an early stage, as they resemble somewhat fibroid or sebaceous tumors, and thus valuable time is sometimes lost, as an incomplete operation is performed in the belief that the growth is not a malignant epithelioma. I recall a case operated upon, ten years ago, by an excellent surgeon, thinking it was a so-called sebaceous cyst of the scalp. The growth was upon the vertex. It reappeared a few months later, and when I saw the woman some time afterward the growth was about one and a half inches in diameter and presented the character of an ulcerating epithelioma. The diagnosis of epithelioma had already been made by the physician from sections of the tumor removed by the surgeon. No gland infection could be recognized, and so I removed the growth by a caustic paste. From that time until her death—four years—there never were any signs of a reappearance at the seat of the primary growth, but within six months of my operation a tumor appeared upon the side of the head, followed soon afterward by another behind the ear, and infection of the lymph glands of the side of the neck. Another case, in a little girl only twelve years of age, in whom the growth was

in the same location, was operated upon last year for a supposed sebaceous tumor-cyst, and the final result will be a similar one, as the glands of both sides of the neck are now enormously swollen.

The clinical character of these cases of the scalp should be sufficient for accurate diagnosis. The growth first appears as a small nodule, deeply seated, sharply limited, and somewhat movable. It gradually increases in size, feels hard, firm, or elastic; the skin over it appears at first perfectly healthy and non-adherent to the growth; later, it becomes adherent and pinkish or reddish in color, and traversed by dilated vessels. The base is deep-seated, and evidently extends near to the periosteum. Operations for their removal should be early and very complete, destroying part of the periosteum if necessary. In a doubtful case a microscopic examination should be made at the time of operation, so that if pronounced cancer the operation be regulated accordingly.

Pigmented epitheliomata are rare; they pursue a very rapid and fatal course, owing to the active proliferation of the epithelia and power of locomotion, therefore require very early treatment. As they arise from moles or naevi, any signs of nutritional changes in these structures in advanced life, changes causing them to become firmer or to bleed easily, should be indications for the removal of the latter.

Rodent ulcer is a variety of epithelioma in which secondary lymph-gland infection does not occur, but the disease, if untreated, pursues a slow but destructive course, and invariably leads to death from local injury to the region invaded. If treated early a favorable prognosis can sometimes be expected, but in a later stage I think these cases are hopeless. We are not yet in accord as to what justifies the diagnosis of rodent ulcer, and the subject requires new studies. Personally, I do not believe it depends upon the same agent or conditions that exist in the other forms of malignant epithelioma, and that the epithelial proliferation is a secondary process. I have so far always found changes in the peripheral nerves, but whether they are primary or secondary I am not able to state. The fact that the system has sufficient physiologic resistance to prevent lymph-gland infection would show the cause of the epithelial proliferation to be different in the two kinds of epithelioma. As regards the epithelia present, there is no distinct type, either as regards size, staining qualities, or arrangement.

Paget's disease of the nipple should be diagnosed early, and the breast amputated without delay. The diagnosis, however, should be positive and correct, as no woman should undergo unnecessarily an operation

of this kind. I have known consulting physicians advise such an operation too hastily. A proper microscopic examination should enable one to confirm or reject the diagnosis of Paget's disease.

In conclusion, permit me to say that I am certain a clear knowledge of the pathologic processes in cancer is essential to the successful treatment of the disease.

**THE MEDICO-LEGAL ASPECT OF INSANITY,
WITH REFERENCE TO COMMITMENTS,
JURY TRIALS, AND EXPERT TESTIMONY.¹**

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WHEN we undertake the study of insanity we find that the definition of the term conveys a widely different meaning to the community, to lawyers, and to physicians. I have often had the question, "What is Insanity?" asked me in court, and have heard it many times propounded to my professional associates. I have answered it to my own satisfaction, and heard it answered with every confidence by others, but each and every time I have heard the definition picked apart in the cross-examination by a cunning lawyer, until only a very slight network remained to sustain it. In referring to the works of medical writers on the subject, I have found nine in which no attempt at a definition is made, while three of the authorities are of the one mind; *e.g.*, that it is impossible to give a definition that will bear legal analysis, although each defines it for practical purposes. Allan McLane Hamilton states that "it is a favorite method with lawyers to make the medical witness commit himself in defining the word, and then hopelessly entangle him in quibbles."

The more I consider the subject the further am I from the opinion that it is possible to frame an answer that would be acceptable to all; that is, what insanity is, when it begins, or where it ends, aside from those cases with a sudden onset, or such that end in death. There is no standard for sanity or insanity. One extremist said that the world was composed of freaks and one sane person; and when asked whom he considered the sane person, answered, "Myself." Boileau said, "All men are insane, but some are able to hide it better than others." Montesquieu said, "Insane asylums were built in order that the outside world would consider itself sane." Haslam, one of the first alienists in England during his time

¹ Read before the Kings County Medical Association, December 8, 1896.

I am indebted to the writings of Drs. Charles F. Folsom, Allan McLane Hamilton, John C. Shaw, John Sibbald, and Theo. Kirchhoff, and to Redfield's "Law and Practice of Surrogate Courts," for many of the laws, quotations, etc., in this article.

(1832), testified in court that he had never seen a sane man in his whole life, adding, "I presume the Deity is of sound mind, and he alone."

We have, then, to consider insanity according to the different accepted ideas. The community usually considers an insane person to be one with a wild and excited manner, constantly considering the destruction of some person or thing, an individual that must be placed under restraint or closely guarded to keep him from fulfilling his criminal desires; or else they believe the condition to involve the opposite extreme, as expressed in marked dementia with incoherent speech, confused ideas, uncleanly habits, and poor physical condition. This is the popular idea of the class of individuals that should be committed to an asylum for the insane. Then, again, other persons who have overwhelming delusions, strange though mild actions, irritable dispositions, peculiar dress, and such like, are looked upon as cranks, freaks and hobbits, but if asked if they consider a person of this type of sound mind, they answer in the affirmative, and state that his manner is only peculiar and erratic. I have often found that the closer the relation, or the better the acquaintance, the slower are the changed condition of relative or friend observed. This is the chief reason why we have been troubled so much of late by the so-called harmless cranks, who have been doing so much damage to the community by removing so many useful persons from the world. It has often been said that if it was left to the average man to decide as to the mental condition of the inmates of an asylum, he would consider seventy to eighty per cent. of them sane, so well can they hide their delusions.

Lawyers take a much narrower view of insanity than physicians; they consider insanity only so far as it affects the safety of person or the preservation of property. A lawyer considers whether a person is competent to perform certain acts which he may be called upon to perform, or responsible for certain acts which he has committed. Sir James Stephen said, in speaking of insanity: "It means conduct of a certain character—a physician would mean certain disease." Sir Edward Coke said, "A man is insane only when he is *non compos mentis*, or has wholly lost his memory and understanding." A man is not insane, in the sight of the law, unless his act is traceable to, or its nature has been determined by, mental disease affecting his free agency; in other words, unless insanity caused his act either wholly or in great part.

Section 21 of the Penal Code, in reference to irresponsibility, etc., of idiots and lunatics, reads as follows: "A person is not excused from criminal liability as an idiot, imbecile, lunatic, or insane per-

son, except upon proof that, at the time of committing the alleged criminal act, he was laboring under such a defect of reason, as either, first, not to know the nature and quality of the act he was doing; or, second, not to know that the act was wrong." This section has been criticised because it excludes consideration of the question whether the accused possessed sufficient power of self-restraint to forbear the commission of an act which he clearly perceived to be criminal. A desire for self-destruction, and the adoption of means to secure it, do not of themselves indicate a mental impairment which has advanced to the stage of irresponsibility, otherwise the law would not declare the attempt to kill oneself a crime.

In relation to will-making, Redfield states: "The doctrine that any insane delusion incapacitates from making a will has commanded the assent of some high authorities, but the weight of authority and the better opinion accord with the rule settled in this State, by which mental capacity is measured, as in every other legal aspect, by its relation to the act. Hence, a person having any insane delusion relating either to the property, to the persons concerned, or to the provisions of the will, is incapable; while delusions which in no way relate to these do not, as a matter of law, incapacitate, for they involve no more likelihood of actual incapacity than many other latent causes. A person may have an insane belief or delusion as to one or more subjects, and not as to others. The question, in respect to the testamentary capacity, in the abstract, is: "Had the testator, at the time, a sufficiently sound mind to make a will?" but, practically, in most cases the question is: "Had the testator a sufficiently sound mind to make the will in question?" There is but one standard of testamentary capacity known to the law of this State, and that is embraced in the inquiry, "Was the decedent *compos mentis* or *non compos mentis*, as those terms are settled in the law, at the time of the execution of the instrument?" A man's ability to transact his ordinary business with judgment and discretion is very strong, if not conclusive, evidence of testamentary capacity. A monomaniac may make a perfectly valid will, if the delusion which affects the general soundness of his mind has no relation to the subject or object of the will.

Physicians consider insanity from a less limited point of view than lawyers. A medical man applies his mind to its study, so as to ascertain how far he may infer from the evidences of mental action the existence of morbid conditions, with a hope to alleviate or remove them. The cases in which a physician is called upon to define insanity, as the term is used by lawyers, are:

- (1) To secure limitation or control of an individ-

ual's actions, usually by guardianship. (2) To control him absolutely in an asylum. (3) To estimate his culpability or criminality, or his capacity to make a will or contract, or to transact business. The definitions for insanity, as given by medical writers on the subject, are somewhat similar. Bucknill says: "It is a disease of the brain (idiopathic or sympathetic) affecting the integrity of the mind, whether marked by intellectual or emotional disorder," and he also recommends the medical witness to add the words, "that the cerebro-mental disorder is such as to suspend or impair the action of the healthy will." Maudsley's definition is as follows: "Insanity is, in fact, disorder of brain, producing disorder of mind; or, to define its nature in greater detail, it is a disorder of the supreme nerve centers of the brain—the special organs of mind,—producing derangement of thought, feeling, and action, together or separately, of such degree or kind as to incapacitate the individual for the relations of life." Dr. Folsom states that any definition of insanity would be incomplete without the statement of Hughlings Jackson's view, that is, that "disease only produces negative mental symptoms answering to dissolution, and all elaborate positive mental symptoms (illusions, hallucinations, delusions, and extravagant conduct) are the outcome of activity of nervous elements untouched by any pathological process. The insane man's illusions, etc., are not caused by disease, but are the outcome of activity of what is left of him (of what the disease has spared), of all there then is of him. His illusions, etc., are his mind."

The simplest division of insanity for all practical purposes is as follows:

Idiocy,	{	Acute and chronic,
Imbecility,		
Mania,		
Melancholia,		
Dementia (primary and secondary),		
General paralysis of the insane.		

These have many subdivisions, which are named and classified differently by almost every writer on the subject. Many varieties derive their names from the causation or circumstances with which they appear; they are symptomatic conditions, and are connected with emotional excitement rather than intellectual disturbance. The division I have before described is usually accepted in a court of law without further questioning, and it is better for the medical witness to adopt it than to confuse the court and jury by the subdivisions. This is especially advisable, as a lawyer will often ask a medical witness if he considers such and such a person an authority on the question, and if he answers affirmatively he will be informed

that his classification is much different from the one just stated.

Some writers claim that it is impossible to make a distinction between idiocy and imbecility; others differentiate them as follows: "Idiocy is a non-development of the brain; imbecility is an arrest of the development of the brain that takes place after birth, usually due to some of the diseases of childhood, that is, it is a permanent arrest, as the brain is unsusceptible to training, except to a very limited degree." Idiots have been trained so as to assist themselves in many ways; under the guardianship of our institutions many have been taught minor trades. This, of course, is not the case with all, as in a large proportion of cases it is impossible to teach them even the alphabet. The idiot's brain therefore remains in the same condition as that of the new-born child, and no development takes place except in a few cases and under the most persistent training.

The Legal Status of the Idiot.—Though in the United States the idiot is deprived of all his other rights, he is, curiously enough, permitted to vote. He is considered incompetent in the matter of will-making, and obligations of any kind contracted by him are null and void, because of his want of comprehension of the nature of these acts. He is also considered irresponsible criminally when it can be shown that the crime is motiveless and unintentional (in their legal sense), and the existence of the will is disproved. In these cases there is neither realization of punishment or consequences.¹

The description and definition of other forms of insanity, known under the classification as manias and melancholia, is given in the simplest manner, I believe, by Griesinger, as follows: (1) "The diseases with mental depression are: hypochondriasis, simple melancholia, melancholia with stupor, melancholia with destructive tendencies, and melancholia with persistent excitement of the will or impulse (moral insanity). (2) Those of mental exaltation—mania and monomania. (3) Those of mental weakness—chronic mania, dementia, idiocy, and cretinism."

Probably the most prominent mental disease about which a physician is called into court to testify, as to some person's testamentary capacity, is general paralysis of the insane, which is also known as paresis, paralytic dementia, paretic dementia, progressive paralysis of the insane, softening of the brain, and sclerosis of the brain. In the earliest stages of this disease, when the manner and habits of the patient are changed and he becomes careless and indifferent regarding his personal appearance; when his ideas become expensive and he makes contracts for prop-

¹ Hamilton, "Medical Jurisprudence," p. 126.

erty or goods that he is unable to pay for, and buys goods that he has no use for, it is then that the medical witness is called to defend him in a court of law for his irresponsible actions. In this same disease a remission takes place in which the patient acts and talks in a rational manner, and it is during this remission that it has been questioned if such a person is capable of making a valid will or contract. I cannot see how a person can have complete reasoning power, even sufficient to consider properly a business contract or compose a will, if his brain has undergone that morbid change that we know takes place in paresis, knowing, as we do, that during the remission or any part of the disease no repair takes place. The length of time of these remissions varies. Baillarger has reported nineteen cases in which the period of remission varied from one month to two years. Dagonet believes that during the remission there is a state of mental feebleness which is incompatible with perfect responsibility.

In the matter of the commitment of the insane past legislation has made certain radical changes from former statutes. Under the new law, which is known as the "Insanity Law," no person can be committed to an institution for the care and treatment of the insane except upon the order of a judge of a court of record, such order being granted upon a verified petition and a certificate of lunacy signed by two medical examiners, after notice to the alleged insane person or some other person to be designated by the court, unless the court sees good reason to dispense with such notice. A hearing may be had of the judge to whom the application is made, at his discretion, or upon demand of the alleged insane person. A very important requirement of the new law is that no insane person shall be confined in any prison, jail, or lock-up, unless he or she is dangerous and there is no other suitable place for confinement. This does not refer to a person under charge of committing a crime. The examiners must not be connected in any way with the prison, penitentiary, reformatory, or such penal institution where the alleged insane criminal is confined. This new insanity law has many advantages and some disadvantages. The service of a notice upon the patient at least one day before the application is presented to the court, stating that an application is to be made for his commitment to an asylum, is apt to do harm to the patient. It will have a tendency to excite those suffering from mania, and to still further depress melancholiacs. The law allows the court to dispense with such notice, but why should it be served on one and not on all, if it is any protection? I do not know of one patient in my experience as an examiner to whom it would not be more injurious

than beneficial. Another section of the law I believe gives a police official too much latitude: "Any person apparently insane, and conducting himself in a manner which in a sane person would be considered disorderly, may be arrested by any peace officer and confined in some safe and comfortable place until the question of his sanity be determined as prescribed by the chapter." It is my impression that this gives a sort of autocratic power to the police, and will cause much unpleasantness.

The rules laid down for the examination of an alleged insane person are as follows: Get a history of the patient's family from a relative or friend if possible, also a description of the actions and manner of the patient from childhood until the present change occurred, so that an idea may be gained as to his normal condition; also, a history of the present attack, with the predisposing and exciting causes. With such information visit your patient with a manner that will gain his confidence from the beginning. Do not give him any impression as to the object of your visit. Converse with him on some subject other than that of his delusions, and while so doing observe carefully his physical condition, his actions, and his personal cleanliness. After you have thus got the confidence of your patient, gradually broach the subject of his delusions, noting carefully the interest he takes in them. It is often necessary to differ with the patient after you have conversed with him on his delusions in order that you may test his disposition. The commitment paper should contain a full account of his irrational ideas and actions so that the court may readily see why the patient is considered of unsound mind and a subject for an asylum. It is possible that the examiner may be called into court at a later date, and a certificate with a good description of the case will refresh the memory very much.

The same method of examination is usually followed in the alleged insanity of criminals, although the examiner begins his examination with a biased mind. There is an object here for feigning insanity, and it is so often practised by persons of this class that it requires more positive evidence to satisfy the examiner than is the case with the ordinary insane. The most difficult examination to make, especially in the case of a criminal, is when conversation must be carried on through the aid of an interpreter, as it is often by the manner in which a question is put and the way it is answered that an idea is gained of a person's delusions and hallucinations. In view of the thorough examination of an alleged insane person, the amount of knowledge and training that is required for such an examination on the part of the medical examiner, and the reviewing of the testimony by the court, it seems strange that when an ap-

plication is made for the appointment of a committee of person and estate, or when a habeas corpus proceeding for the discharge of such person is instituted, that the court usually directs that such hearings be held before a jury. It is my impression that a jury of laymen is incompetent to judge as to a person's sanity, and I have often thought that such trials should be held before a judge, or before a commission composed of one lawyer and two physicians.

The Medical Witness—Expert Testimony.—The absurd verdicts that have been rendered in so many cases are not alone chargeable to the jury, but are often due to the laws of our State that allow too much latitude to lawyers in the examination of the medical witness. During the cross-examination an effort is made to entangle the witness by some catch question, or to make him contradict himself in some way so that he will appear in a ridiculous light before the jury. Such an examination may have some influence upon a jury, but I believe it is of minor effect as compared with the testimony of a class of men who have testified in our courts frequently of late years under the guise of experts. That these men should appear on the witness stand and have their testimony weighed in the same manner as that of the honest, conscientious, and intelligent members of our profession, seems to me to be an outrage. It is for the medical profession to put a stop to this abuse. So-called expert testimony to-day has been reduced to such a level that many of the reputed experts are only to be classified as criminal rogues. I believe, as a remedy for this evil, that all experts should be selected by the judge presiding at the trial where such testimony is required. At the request of counsel for either side the court shall appoint one or more experts, but not more than three, and their expenses shall be charged as court costs. I would suggest that in every district of the Supreme Court the Governor of the State appoint a commission of five medical men, with power to select such physicians as experts as are considered authorities in their respective branches of medicine, and that its selection should receive the unanimous approval of the judges of the Appellate Court of the same division. This would separate the direct witness in a case from the medical expert, and we would then listen to expert testimony with an eager ear, knowing that the witness was an authority on the subject at issue, was testifying to the truth, and was bringing to bear the information of a trained mind.

DISCUSSION.

HON. WILLARD BARTLETT, Judge of the Supreme Court, Kings County: Let me speak first of what Dr. O'Connell has said in regard to medical expert

witnesses. To a lawyer, a chemist, who is called upon to give evidence in a murder trial as an expert, is not what would ordinarily be termed an expert witness, unless he is called upon to state not merely facts observed by him as a chemist or physician, but to testify to matters of opinion; and it is to this class of witnesses rather than those who simply detail facts that lawyers generally refer as expert witnesses. The proposal is made here, and I have heard it made many times before, and have discussed it myself in a paper I read some years ago before the Society of Medical Jurisprudence in New York, that there should be appointed by the court, or in some official manner, an expert to give testimony in important cases, so that, for example, when a question as to insanity comes up before a judge and jury, after all the testimony as to matters of fact has been given on one side and the other, this expert may be called upon to give his opinion in answer to a hypothetical question, or otherwise, as the court deems best adapted to illustrate the truth. As to this, I wish to make one suggestion to the medical profession. A patient who has been treated by his physician for months and years is alleged to be insane, and the question of his insanity is being tried. The physician is prepared to show, so far as his testimony goes, that the man is perfectly sane. He can go amongst the medical profession and find a score of physicians of the highest character who are all ready to endorse his opinion, and to take the stand and give evidence to that effect. He goes into court and testifies, and the other gentlemen take the stand and testify, all being equally unknown to the judge and jury; and perhaps, after giving this testimony, somebody appointed by some authority, political or judicial, some physician, whose ability may be questionable, takes the stand and gives evidence with all the weight of his official position in a contrary direction. Would that be fair or desirable? Is the suggestion that is so often made that we should have a class of official witnesses a solution of the problem? The problem is a serious one and is not easy of solution, and I am afraid that this would be very far from a satisfactory solution. One point more. The idea of official witnesses is totally opposed to all prevailing ideas of American and English jurisprudence. It would be a departure in a direction contrary to the spirit that has given rise to our free institutions. It may be an improvement, but it is radically different; and we should consider that before we determine as to what is a true solution of this problem. That is all I wish to say on the subject of expert testimony.

What I have to say as to the rest will be devoted to the relations of the law to insanity. Dr. Bier-

wirth, in inviting me to come here this evening, said he particularly wanted to have my views on this subject and upon the recent legislation which went into effect in July last in regard to the commitment of the insane. Now, our law dealing with the insane substantially treats the subject in four aspects: (1) Mental derangement, so far as it justifies the restraint of personal liberty. (2) Mental derangement, so far as it relates to the property of the patient and taking away from him the control of that property. (3) Insanity, as affecting the capacity of the patient to execute wills and contracts generally. (4) Mental derangement, as an excuse for acts which would otherwise be criminal.

As to mental derangement, which justifies the restraint of the individual, or the commitment of the insane, I think there would be a better understanding between doctors and lawyers if the precise objects of the law were understood. If a man is taken ill in his own house with any sort of malady, the law does not ordinarily undertake to interfere with the physician in his treatment of that patient. He does substantially what he likes. And if the man is harmlessly insane in his own home, the law does not undertake to say what should be done or not done, except to see that the physician treating him shall possess and exercise ordinary skill in his profession. The chief reason why the law interferes at all in regard to lunatics is because of the acknowledged necessity that some sort of physical restraint must often be exercised; and all that the law has attempted to do is to see to it that in those cases where physicians find it necessary and proper to exercise this physical restraint upon the liberty of the citizen, such restraint shall be exercised only under circumstances clearly justifiable. When the law does that, it does enough; when it does more than that, it does too much.

Under the old system the process of placing the insane patient under restraint was very simple. An examination had to be made of the patient by two physicians who had practised medicine for three years and were of good character, their qualifications in this respect being certified to by some judge of a court of record. Without any prior judicial approval whatever the patient could be sent to an insane asylum for a few days until judicial sanction was secured. Under this law I have had much personal experience. There were few evils, and certainly no necessary evils, provided the physicians did their part of the work in the right manner and the judges did their part; and if the physicians were properly qualified and had made the examination with the necessary care, and the judges had examined the cases, and had seen at least one of the phy-

sicians who had signed the certificate, the system worked very well. Of course, there were evils if either the physicians or the judges were lax. For example, it is a mere mockery for a man who is not a physician to come into a court with fifty certificates of lunacy, and expect the judge to sign his name to every one of them without any inquiry whatever. I repeat, such procedure is a mere mockery, and affords no protection whatever to the persons whose liberty is about to be restrained; but a proper degree of care would prevent any such evils as this.

The law now is changed very much. Dr. O'Connell has referred to some particulars in which it has been changed. There can be no exercise of such restraint without a prior judicial order or adjudication that the patient is insane. It is objectionable, it seems to me, to require such a positive judgment to this effect in all cases, as a condition precedent to the temporary confinement of the insane. There are many cases in which the mental derangement is not permanent and in which the patient, if he or his relatives could have anything to say about it, would prefer that there should not be on record in the courts so formal a finding of insanity as is now required. Under the old system a certificate from two physicians, that they deemed him insane, was necessary, but there was no formal adjudication of insanity. This is absolutely indispensable now. There is another class of cases where it is important to proceed with rapidity. These may be defined as emergency cases, in which it is better for the patient himself and for his family that he be placed under restraint; and the expediency of restoring the old law to the extent of providing for at least temporary restraint in such cases, without adjudication, seems to me quite manifest.

I will pass on as rapidly as possible to two or three other points which I have in mind. It must be remembered that all these proceedings with respect to the commitment of the insane upon such certificates and upon such judicial orders as I have alluded to, have no direct effect whatever upon the patient's civil rights, or his right to vote or control his property. The only effect of all these proceedings is to justify his restraint. If you wish to take even one dollar from him for his own benefit the proceedings must be entirely different. Our jurisprudence on this subject is derived from England, and as in England, the assistance of a jury is necessary. A third aspect of insanity with which the law deals is that relating to the capacity of the patient to make wills and contracts; and as my friend, the Surrogate, is present, and is, I understand, to favor us with a few remarks, I will not dwell any longer on this phase of the subject.

As to insanity and mental derangement as an excuse for what would otherwise be regarded as criminal acts, perhaps there has been no subject on which the medical and legal professions are more hopelessly divided than upon this. The law has been criticised again and again for the inadequate and unsatisfactory character of the legal rules as to what degree of mental derangement shall be deemed sufficient to constitute an excuse for crime. About this I only wish to make one observation. The difficulties are far more exaggerated in discussion than they really are in practice. I have rarely seen any criminal case in which, after the conclusion was finally arrived at by judge and jury, the results would not meet the approval of a body of medical men like the Kings County Medical Association, if carefully reviewed. We do better than you suppose would be possible from the law as you understand it. Theoretically it is not perfect; but in practice it works, on the whole, very well, when the difficulties in the way of devising a better system or a better definition are considered.

I should be very glad to cooperate with any movement coming from the medical profession toward making the law theoretically more perfect; but taking into consideration all the difficulties of the matter I think we have every reason to be satisfied with the results as they are achieved in the courts to-day.

HON. GEO. B. ABBOTT, Surrogate of Kings County: The objections usually urged against a will offered for probate are three: First, that it has not been executed in accordance with the requirements of the statute; second, that the testator did not possess testamentary capacity at the time of execution; third, that the will was procured by fraud and under influence. Of these, the second objection, that of testamentary incapacity, is the one most often litigated, and many times very perplexing and difficult problems arise, as I have found in my experience as surrogate. The question for the court to decide in regard to testamentary capacity is, "Did the testator comprehend the nature and extent of his property, and who have just or natural claims upon his bounty in its disposition?" Many people are superstitious in regard to making their wills. Instead of making them in the prime of life, or when at their best mentally and physically, they put it off for one reason or another until at the point of death. The questions the court have to consider are: "Under what circumstances was the will executed? Did the testator possess sufficient testamentary capacity to know what he was doing?" and, "Was it executed of his own free will?"

Some lawyers have peculiar ideas about testamen-

tary capacity. A lawyer some time ago came into my court, alleging that a certain will had been made while the testator was insane. I saw nothing in the case indicating mental trouble on the part of the testator; but the lawyer declared that there was no doubt as to his absolute insanity. His first witness was a barber, who stated that the testator went to his shop to be shaved, and as soon as he sat down in the chair he went to sleep, and therefore he was insane and incapacitated for making a will. Under these circumstances, I am afraid I should not be competent to make a will myself, as I usually go to sleep in my barber's chair.

The Hamilton will case was tried before me. It was one of the most difficult and perplexing cases that I have ever had to deal with; one of the "border-line" cases so difficult to dispose of satisfactorily. In relation to expert testimony, it affords ample illustration of how unsatisfactory this class of testimony often is. The testator executed his will on the twenty-seventh day of October. It was drawn up by a lawyer, who also witnessed the will. The other witness was of good reputation, but not a professional man. The testator's family physician had seen him on this same day. About ten days later he had an acute seizure, and became violently insane. Then experts were called in who saw him under these conditions, but who had not seen him previous to that time. The testimony of the lawyer who drew up the will and subscribed to it as a witness, and that of the family physician, was so clear and explicit as to the capacity of the man on the day on which the will was executed, that I made up my mind to admit the will to probate. The expert witnesses were numerous, Dr. O'Connell, whose paper you have just heard read, being one of them. A hypothetical question, difficult, intricate, and of great length, was propounded, and the medical men called by the contestants answered it with great unanimity, agreeing that the testator was of unsound mind. The experts called in by the other side were required to answer a hypothetical question of almost a similar nature, and they were quite sure that the testator was perfectly sane. Under these circumstances, you can see how unsatisfactory such testimony is. I concluded to be guided by the testimony of the lawyer who drew the will and the family physician, and admitted it to probate. A jury subsequently reached a different conclusion. We have many cases of this kind in the courts, and you can readily see that when the opinions of eminent experts, on the same statement of facts, are so conflicting, their testimony is not of much service to the court in reaching a decision.

It may be possible to formulate some system which

will make the introduction of expert evidence more satisfactory to medical men and the courts; but, as Judge Bartlett has just remarked, it is a question which is very difficult of solution, and after much consultation with other judicial officers on the subject, I am not sure but our present system is the only practicable one, after all.

DR. J. C. SHAW: As Judge Bartlett has placed the matter so clearly before the meeting there is little for me to say. The most objectionable feature in the law of commitment is the service of the paper on the patient twenty-four hours before committing him to an asylum. Two or three weeks ago I was compelled to appear before the judge of one of our courts in the case of a man who was suffering from paresis in the early stage and request that he permit the service to be made on the man's wife. It certainly would make such a patient worse to present this paper to him stating that he was to be adjudged a lunatic.

Lawyers have been in the habit of coming to me from time to time during the past ten years on this subject of expert testimony, and in the majority of cases I have been disgusted at the nature of the testimony presented. Such testimony is usually positively ridiculous, particularly so in the testimony in connection with the matter of contested wills. I do not know of any class of testimony that is more foolish than in cases of this kind. All sorts of subjects are brought up which have no bearing on the matter at all; and if such a suggestion is made to a lawyer he is offended. He thinks that all such statements should be accepted without objection. Judge Abbott has called attention to one such case. Some years ago I was engaged in a case of contested will where a barber testified that he thought the testator insane because on one occasion he had forgotten his rubber overshoes in the barber shop.

In regard to expert testimony, I have long been convinced that this is objectionable in many ways. As a rule, the lawyer who calls the physician endeavors to make him a partisan to his own side rather than an expert witness. When the physician is on the stand and is cross-examined he often displays the partisan spirit in his answers. This is wrong; he should be entirely impartial in his testimony, no matter if in the cross-examination his answers would appear to be against the side that calls him.

DR. A. C. BRUSH: There is one aspect in criminal cases that has never been sufficiently brought out. I refer to the circumstances under which the expert sees the criminal. He sees him after the commitment of the crime, when the victim of paranoia, feeling that his enemy is "removed," has quieted down, and is more rational; or, again, the fear of

impending punishment is sufficient to recall him to a more rational state only to lose his reasonable manner after the stimulation is removed; or, again, while imprisoned he may be animated by a feeling that he is safe from his enemies, and is quieter under these circumstances; or his counsel may have visited him in order to make up his case, and this counsel, who knows more on the subject of insanity than is commonly believed, coaches him in regard to it.

In regard to expert testimony, when an expert is put upon the stand he is often called upon to answer questions about mythical personages or characters from the Bible until he is thoroughly tired out, and then is required to answer an intricate hypothetical question. Under these circumstances he sometimes answers quite differently from what he would do if he were more cool and collected.

THE DIAGNOSIS AND TREATMENT OF ACUTE INTESTINAL OBSTRUCTION.¹

BY J. A. GOGGANS, M.D.,
OF ALEXANDER CITY, ALA.

I BELIEVE that it is now generally conceded that more rapid strides have been made in abdominal surgery during the past few years than in any other department of our art. Still, we have not arrived at perfection in operative technic, nor have we exhausted the field so completely in point of variety of pathologic conditions that we can say that the abdominal surgeon does not still meet with cases that are more or less unique. In order that the science and art of surgery may be of the greatest utility to humanity, the surgeon should report all of his important unusual cases, especially if the results have been unsuccessful. The following case will illustrate very forcibly the importance of making a correct diagnosis and instituting proper treatment in all cases of obstruction of the intestines.

Mr. C., aged sixty-five years, married; duration of sickness, seven days. I saw him on the fifth day in consultation with Dr. Harlan. Pulse, 100; temperature, 101° F.; recurring attacks of pain in the abdomen, followed by vomiting. He had taken several one-half grain doses of calomel, and enemas of warm water had been given, but the bowels had not moved. The abdomen was not much distended, and the vomited matter consisted mostly of water. There was not the least tenderness in either inguinal region.

A diagnosis of acute intestinal obstruction was made and immediate laparotomy advised, but the patient asked that the operation be postponed for twenty-four hours; to await developments. At the end of this time the patient's condition was much worse. The pulse was then 120 per minute, the temperature 102° F., and there was more pain and

¹ Read before the Jefferson County Medical Society.

vomiting. Laparotomy was performed under ether, a median incision four inches in length being made. A loop of much distended intestine protruded, and this was first punctured with an aspirating needle, and then was followed in the direction of increasing congestion until the seat of obstruction was found at the internal abdominal ring. Considerable force was necessary to dislodge the gut, and it sustained a laceration half an inch in length at the point at which it was adherent. This was closed by a few Lembert sutures. The abdomen was then closed with silk-worm-gut sutures. The time occupied in performing the operation was twenty minutes. The patient rallied a little, but died six hours later.

As will be seen, this was no triumph of surgery. I report it, however, on its merits, believing that much may be learned from it. It serves, at least, to illustrate the symptoms of acute intestinal obstruction, as well as the extreme danger of delay in performing laparotomy after the diagnosis is evident. An experienced surgeon should be able to make a diagnosis within a few hours. The patient is suddenly seized with pain in the abdomen, which is paroxysmal in character, and is soon followed by vomiting. He soon becomes prostrated from shock, and knows that he is seriously ill; constipation is obstinate. In fact, the symptoms of intestinal obstruction are simply those of strangulated hernia.

When called to a patient presenting these symptoms we should first see whether there is a hernia; we should also exclude cancer of the rectum and impacted feces before coming to the conclusion that the obstruction may be due to bands, intussusception, volvulus, or, perhaps, to distension from gas or fluids. After making the diagnosis, the location of the obstruction should be found, if possible, and I am firmly of the opinion that this can be done with much more certainty than was formerly supposed.

The gynecologist of to-day, as well as the general surgeon, should be especially interested in this subject, for it is stated on good authority that perhaps one-half of the deaths following laparotomies are due to acute intestinal obstruction. We must look at these cases from this standpoint. The death rate from laparotomy for intestinal obstruction is, perhaps, seventy-five per cent, and without the operation, about one hundred per cent. Therefore, the operation is still justifiable. But why such a high rate of mortality after laparotomy for this condition, when the death rate from other abdominal operations is so astonishingly low? There can be only one answer, and that is *delay in operating*. It demands abdominal section for its relief just as soon as the diagnosis becomes manifest, and before the bowels become inflamed and distended. The surgeon, however, is generally called in late, and I am impressed with the belief

that if many such patients were operated upon only under local anesthesia, and perhaps only an artificial anus made, the death rate would be diminished. The cause of the obstruction may be removed subsequently.

Nearly every physician or surgeon is competent to open the abdomen, but the exact mode of finding and relieving the point of obstruction is an undertaking much more difficult to accomplish. I would recommend the following plan as the one fraught with the least expenditure of time and danger to the patient: In the first place, it is reasonable to suppose that the coils of intestine which are most distended and congested will be the first to present at the incision after the peritoneum is cut through. The most congested coil should be followed in the direction of its increasing congestion, and the seat of obstruction will usually soon be found. If this method fails to locate the obstruction, the hand may be introduced to explore for it. To pass the intestine through the fingers takes much time at the expense of shock to the patient. I would warn against allowing a patient to leave the operating table with a greatly-distended abdomen. If this is done, the operation is incomplete and shock will surely follow. In fact, the cause of obstruction may be the great distension; consequently, I would, in all cases of laparotomy for intestinal obstruction, when there is much distension from gas or fluids, incise the intestine transversely, and allow the contents to flow away as rapidly as possible, and then close the incision with a double continuous suture.

CLINICAL LECTURE.

THE TREATMENT OF ENDOMETRITIS; ABDOMINAL HYSTEROPEXY.¹

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THE first case that I wish to show you this morning is that of a young woman, single, of some thirty years of age, whom I curetted four days ago for an endometritis of some two-years' standing. The history of this patient is briefly, as follows: Three years ago she had a criminal operation performed on her for pregnancy of about two-months' duration. According to her statement, she had no unfortunate complications following this operation, although ever since that time she had noticed a yellowish mucous discharge from the vagina. She had always menstruated regularly, although she is now apt to be a few days late. The menses are rather abundant, and, since the criminal operation, have given her a certain amount of

¹ A clinical lecture delivered at the Deaconess Hospital.

pain, so much so, that she has been obliged to give up her work, which was that of a servant.

The patient was found to be highly hysterical, and, as no satisfactory examination could be made without narcosis, ether was given, and the following condition found: The uterus was enlarged in physiologic anteversion. There is a very small laceration of the cervix, but not sufficient to justify an operation for its correction. On the left side the ovary was slightly enlarged, still it did not appear to me of sufficient importance to justify an exploratory incision in the posterior cul-de-sac or its removal. Consequently I only scraped the cavity of the uterus and shall wait and see what result this operation may have upon the patient. The curettement for the endometritis, which in this case was distinctly due to infection of the uterus at the time the criminal operation was performed, will probably do away with all the symptoms of which the patient complained, namely, pain and copious menstruation.

While there is nothing particularly interesting or remarkable in this case, I wished to show it to you and to consider the treatment of chronic endometritis, because it is one of the most unsatisfactory diseases of the uterus to treat, for, if not properly carried out, and if the after-treatment is not perfectly precise and closely looked after, the result of your operation will be absolutely *nil*, and after a short time your patients will be just as badly off as they were before you undertook to treat them. In the first place, to perform a curettement properly, it is absolutely necessary to perform the operation correctly, and, before passing to the next patient, I wish to say a few words regarding the operation and the after-treatment of the patient. The operation is condemned by many, but it also has its upholders. It is evident that a short time ago it was performed for almost every symptom that a woman could present in her genital organs, and was certainly very much abused, but now the indications appear established, and we know much better when to resort to it.

In endometritis the mucosa of the uterus is the seat of disease at the beginning, and, if it is allowed to continue for any length of time, the lesions will little by little penetrate into the body of the uterus, that is to say, into the middle of the walls, and it is precisely this infiltration that will render not only the diagnosis somewhat difficult, as in long standing cases it might be taken for epithelioma, but the result of the operation is not so good. Curettement, as you know, consists primarily in removing the fungoid endometrium, but this is simply a part of the treatment of endometritis, and, if you only curette the uterus, the results will be poor. As in the treatment of infected cavities, disinfection is what you aim at, and this is the end attained by curettement. In order to be able to disinfect the uterus, the organ must be first dilated and afterward cleansed by a solution of chlorid of zinc, or, what I consider better, equal parts of glycerin and creosote. In performing curettement you must employ complete narcosis, because you must obtain an absolute relaxation of the patient in order to do it properly. I always place the patient in the dorsal position, with the legs held back on the abdomen by an assistant standing on each side. The

next thing to do is to thoroughly disinfect the vagina with nail brush and green soap, but one point on which I would insist is that you must be careful not to brush too hard, or otherwise you will produce abrasions in the vagina, and this may give you trouble in the after-treatment. After the vagina has been thoroughly brushed, a douche should be given, either of sublimate, 1 in 4000, or of a one-per-cent. solution of lysol or creolin. It is needless for me to say that any operation on the genital organs of the female requires that the parts should be shaved thoroughly before the operation, because the hair on the pubis and vulva makes excellent culture grounds for infectious organisms. You next introduce a speculum, or, what is still better, a simple posterior vaginal retractor, which will bring the cervix quite sufficiently into view, and then grasp the latter with a pair of stout tenaculum forceps. When you do this be sure to include a considerable amount of tissue between the teeth of the instrument, in order that it may not slip and tear the cervix. Personally, I usually catch the anterior lip of the cervix, although many operators think it better to catch the posterior one. If there are no periuterine lesions, you may draw the cervix down to the vulva, but if any inflammatory condition is present above, you simply steady the cervix by your forceps, and by simple retraction of the posterior vaginal wall you will be able to see sufficiently well to curette with the uterus in place. After the forceps have been applied to the cervix you proceed to dilate. There is considerable importance in selecting the proper instrument for this. When there is a narrow cervical canal, it is better to begin by passing a few Hegar's sounds, in order to render the canal patent and sufficiently large to allow of the introduction of the blades of a metallic dilator. If, on the contrary, the canal is sufficiently open, the dilatation with Hegar's sounds will not be necessary.

You will see Goodell's dilator used, or some modification of it, in almost all of the hospitals. Personally, I consider it far too powerful to use, and I know of no better instrument than the old three-bladed dilator described and employed by Scanzoni many years ago, which I find answers every purpose. When closed the blades of this instrument are not very much greater in circumference than an ordinary uterine sound, and it can be introduced with great ease into the canal, and by a little pressure the three blades separate, and dilatation is very easily accomplished without lacerating the tissues of the cervix. When the canal has been dilated sufficiently to introduce the curette, you should proceed by scraping first the anterior wall of the uterus, then the posterior wall, and then the sides, and you should finish by removing all diseased tissue around the orifices of the tubes. All this should be done methodically, or else you will leave a large amount of diseased mucosa in the uterus, which will simply be the starting point of a new endometritis. I have also a word to say regarding the curette. Nearly every operator has invented a curette, which he considers superior to any other, but in my opinion no instrument of the kind has been devised that is superior or as good as that of Recamier. This is long and narrow, and for this reason is easily directed into the corners of the uterus,

and can reach and remove all of the diseased mucosa.

The after-treatment of curettement for endometritis is of great importance. The uterus having been thoroughly irrigated with lysol solution, and having been carefully swabbed out with a tampon wet in glycerin and creosote, equal parts, the dressing is proceeded with. In order to drain the cavity the first thing necessary is to keep the orifice dilated and not allow it to close up. For this purpose iodoform gauze is largely used, the uterus being completely packed by some operators, while others simply drain it by introducing a few strips. I have used gauze drainage in some twenty cases, and I am free to confess that nearly all of them did poorly. The gauze appeared to block up the uterine orifice, and the secretions stagnated in the cavity. Of this I am sure, because two or three of the patients had an elevation of temperature a day or two after the operation, and when the gauze was removed and intra-uterine douches were given, a large amount of bloody liquid was washed away. In another series of cases I did not make use of drainage, but simply kept the vagina aseptic, dispensing with other dressing, but it appears to me in every way more surgical to drain and to drain *surgically*. For this reason, as well as to keep up a good dilatation, I insert two small rubber drains, which have previously been sterilized by boiling in a 1-in-1000-corrosive-sublimate solution, and carry them up to the fundus of the uterus and allow them to protrude from the external orifice of the cervix for about six centimeters. I then pack the posterior cul-de-sac of the vagina with iodoform gauze, then the anterior cul-de-sac, and finally the entire vagina, leaving the two drains protruding about two centimeters from the vulva. I thus obtain direct drainage from the uterine cavity. Over the drains are placed several sterile gauze pads, which are changed, as in any other case of surgical drainage, as soon as they are soiled. The patient's urine is drawn every eight hours during the time that the drains are left in place, and she is allowed to sit up in bed on the day following the operation. By allowing your patients to sit up, you will produce an excellent inclined plane, which will allow all contained secretion to immediately run off, and as the drainage tubes are sufficiently large, the drainage of the uterus, I believe, is complete. Every day ten cubic centimeters of peroxid of hydrogen is injected through one tube into the uterine cavity, and this keeps the tubes as well as the uterus clean. According to the case, I leave the packing and drainage tubes in place for eight or ten days. I then remove them, thoroughly irrigate the vagina in the morning for three or four days, and usually the patient will be perfectly well after that.

If one is dealing with a chronic or septic endometritis, I think it well to leave the drainage tubes in place for at least fifteen or twenty days, and, if an intelligent nurse who understands the principles of surgical sepsis has charge of the case, and she is given necessary directions, infection of the uterus from without need never be feared, and your patients will be benefited by the operation.

You see in this case that the drainage tubes are protruding about three centimeters beyond the vulva, and it is now four days since the operation and all discharge

from the uterus has ceased. I shall remove the tubes at the end of a week, and I think the patient will go home completely cured of her malady after the expiration of ten or twelve days.

The patient that I now show you is a woman, sixty years of age, upon whom I performed abdominal hysterectomy just seventeen days ago, and as the case has presented some interesting features, and as the indications for performing this operation are very often misunderstood, I desire to speak at some length regarding it. In the first place, you will see by the chart that the temperature went up to nearly 38.5°C . on the evening of the operation; that on the next day it was about 38°C ., and that on the second day it rose again to nearly 38.5°C . The elevation of temperature after abdominal operations, when occurring on the succeeding two days, is usually not of much importance. The most important point to consider is the pulse. In the case of this patient, the pulse was 130 on the night of the operation, and the next day it still ranged at about 115 beats a minute. This pulse rate occasioned me some alarm, because it is a far too frequent beat, and would indicate infection of the peritoneal cavity. After the second day, however, it dropped to about ninety, and remained there, and the patient, as I have told you, made an uneventful recovery. Rise in temperature and a very rapid pulse rate is exceptional in uncomplicated cases, but in the present instance this unusual occurrence can be explained, I think, by the fact that for several days previous to the operation the patient had a morning diarrhea, there being as many as six or seven liquid movements during the forenoon; and then when the abdomen was open, the bowels, which were in a subacute inflamed condition, were irritated by the manipulation necessary to suture the uterus to the abdominal walls, and this provoked a slight irregularity in the temperature and pulse.

Regarding operations in general on elderly people, I would say that unless the patient is in excellent condition one should always be prepared to meet any indications of shock that may occur. A hypodermic syringe containing one-fiftieth of a grain of strychnin, in solution, should be at hand to counteract symptoms of collapse, and, what is most important of all, preparations should be complete for the administration of artificial serum, either directly into a vein or subcutaneously. I will give you a few formulæ for the preparation of this serum. The solution recommended by Hayem is probably the best for injections of large quantities, for the reason that its composition is very similar to that of the blood serum. It is as follows: Chlorid of sodium, five grams; sulphate of sodium, ten grams; boiled water, one liter. Another very excellent solution, recommended by Chaleix-Vivie and Audebert, which they say will give very encouraging immediate results, is chlorid of sodium, seven grams; glycerophosphate of sodium, four grams, and sterilized water, one liter. Chéron prefers a more concentrated serum, made by combining pure carbolic acid, two grams; chlorid of sodium, four grams; phosphate of sodium, six grams, and sulphate of sodium, eight grams, with boiled water, 100 grams. This condensed solution, in which the phosphate

of sodium has been introduced on account of its action on the nervous system, may be injected in doses of fifteen to thirty grams, and may be repeated several times a day and continued for several days. In acute anemia following hemorrhage, it is highly recommended. The important thing to remember is that the solution must be absolutely sterile. It should be boiled, a small amount of chlorid of sodium being added, on account of the concentration which results from the evaporation of the water during boiling.

I will explain to you in a few words why I performed abdominal hysteropexy upon this patient. She came to the dispensary early in the spring of 1896 with a prolapse of the uterus, although this was not very marked, the cervix hardly appearing at the vulva. I did not wish to subject her to a very severe operation. I thought that a plastic operation on the anterior vaginal wall, with a perineal operation, would be sufficient, and this was performed, with the result that she was up and about at the end of three weeks feeling perfectly well. The condition remained excellent until the middle of last summer, when she was out walking and caught her dress on some obstacle and fell on her back. This produced considerable strain, and a few weeks later she noticed that the uterus, which up that time had not given her trouble, had begun to fall again. I saw her again in October and found that the uterus and vaginal walls were again prolapsed, although not to any such degree as before the operation, and, as I was afraid that little by little the uterus might return to its former position, I advised her to have the abdominal operation performed, to which she agreed.

Abdominal hysteropexy is a very good operation under certain conditions, and, in my opinion, under these conditions only. In the first place, the patient must have passed the child-bearing period, because in many cases in which the operation has been performed on young women who have afterward conceived, the pregnancy has been interrupted at the third or fourth months; or when it is gone to term in many cases the labor has been rendered difficult on account of the adhesions existing between the uterus and abdominal wall, and it has been necessary in quite a number of instances to resort to some of the major obstetrical operations in order to deliver the child. This is a sufficient reason why the operation should be rejected in the case of all women who can still have children. Another contraindication is when the uterus and adnexa are bound down by adhesions resulting from inflammation. Under these circumstances the operation would be rendered extremely difficult and probably impossible and might be the means of setting up anew all the former inflammatory troubles. I would also say that when abdominal hysteropexy is not combined with a plastic operation on the vaginal wall, in all probability it will be a complete failure. When this combination is carried out I consider it the very best operation in use for prolapse of the uterus in elderly women, and I know of nothing to take its place. Regarding vaginal hysterectomy for prolapsus, I think that it is an imperfect operation for the relief of the condition, and is only indicated when the prolapsed uterus contains

a fibroid tumor, and then it is performed, not for the prolapsus, but for the neoplasm. There is one indication for vaginal hysterectomy for prolapsus, and that is when the organ has become strangulated and reduction is impossible. In this case, in order to avoid gangrene of the genital organs from the cutting off of the vascular supply by strangulation, vaginal hysterectomy is absolutely indicated, and is probably the only operation that will save the patient.

The after-care of patients who have undergone abdominal fixation of the uterus consists principally in keeping them quietly in bed for at least three weeks. The sutures may be removed at the end of eight or ten days, and if all goes well the patient may be allowed to sit up at the end of twenty-one days. Although the abdominal incision for this operation need only be six or seven centimeters in length, the possible occurrence of hernia should always be considered, and the abdominal walls supported by a binder for a year or eighteen months.

An interesting feature of this case was the extreme amount of gas in the bowels, which gave the patient a great deal of pain. To overcome this she received an enema of soap suds and an ounce of turpentine every time she was distressed, and this brought away the gas and afforded relief, although during the first four or five days after the operation she received as many as five or six enemas in the twenty-four hours. Another excellent treatment for the relief of gas in the intestines following abdominal operations is the introduction of a large tube some eight or ten inches into the lower bowel.

The feeding of patients after abdominal hysteropexy is practically the same as after any abdominal operation. The diet should consist chiefly of milk, to which may be added some lime water and gruel. Champagne is very efficacious in relieving the nausea. I can also very highly recommend the compound tincture of cardamon, ten drops of which may be given on a lump of sugar every two hours. The bowels should be moved by a saline forty-eight hours after the operation, or even earlier if there is any particular indication for it.

MEDICAL PROGRESS.

Etiology of Cancer.—RONCALI (*Centralbl. für Chirurgie*, No. 50), in a paper read before the Eleventh Congress of the Italian Surgical Society, held in Rome, October 26-29, 1896, thus sums up the present knowledge of the etiology of cancer:

1. In the cell protoplasm and connective tissue of malignant new growths are found bodies which are not of cellular origin, but come from the outside world.
2. These bodies are morphologically similar to the so-called coccidia which different investigators have found in the cells of epitheliomata and sarcomata.
3. These bodies which are found in cancer are morphologically identical with blastomycetes which are found in animals after they have been inoculated with pure cultures of organized ferments.
4. They resist acids and alkalis exactly as do the inoculated blastomycetes.

5. They occur only in malignant growths.
6. In new growths in men they are found in certain places, as in the periphery, where growth is still active, and not in the middle where the elements are already degenerated. They are situated either in the protoplasm of the cells or between the fibers—only exceptionally in the nuclei.
7. They stain in the usual way, and can often be obtained from malignant tumors of men and animals and grown in a pure culture.
8. Such pure cultures are always composed of blastomycetes, and when inoculated they press into the cells and between the fibers, producing the same appearances as in the tumors of men and animals from which they were isolated. These bodies show the reaction of cellulose exactly as do the blastomycetes which have been injected into the tissue of an animal. This is a proof that they do not arise from the degeneration of the cells of the cancer.
9. Certain blastomycetes produce in the animals experimented upon changes of a neoplastic, not inflammatory, character.

In spite of these results Roncali did not consider that the etiology of cancer was definitely determined. First, it would be necessary to inoculate with blastomycetes obtained from a malignant tumor of a certain species of animal another animal of the same species; and to obtain in the animal inoculated the same malignant new growth, as existed in the other animal.

The same subject was discussed by MAFFUCCI and SIRLEO who had examined twenty-four malignant tumors (carcinoma and sarcoma) and obtained from them various sorts of blastomycetes which they had injected into animals. They formed conclusions in the main similar to those given by Roncali. They found blastomycetes especially in ulcerated malignant tumors and strongly suspected that they should be looked upon as the result of a secondary infection. In general, they did not oppose the opinion that cancer and sarcoma might be caused by blastomycetes, but as yet this has not been demonstrated by experiments.

A Rare Case of "Hemorrhoids" of the Prostate.—

KRAUSS details in the *Wien. klin. Wochen.*, No. 28, 1896, an unusual case. The urine of the patient, a man fifty-eight years of age, contained an appreciable quantity of blood. A blood clot was always voided before the beginning of urination, especially when the bladder was distended with a large amount of urine. A normal stream usually followed the escape of the blood clot, or a quantity of blood-stained urine was voided followed by an intermission, after which blood clots were passed, followed again by a normal stream of blood-stained urine. The prostate gland was undersized, and cystoscopic examination of the bladder gave only negative results—cystotomy was performed and revealed a continuous flow of blood from the anterior part of the neck of the bladder toward the posterior wall of the bladder. In the neighborhood of the neck of the bladder distended veins and even varix were visible. On digital examination the mucous membrane of the neck of the bladder was found to be normal and smooth,

so that the hemorrhage must have come from the portion anterior to the internal vesical sphincter, or, in other words, from the region of the prostate. The Paquelin cautery was applied to the part adjacent to the internal orifice of the urethra. After complete cauterization the hemorrhage from the prostate ceased and complete recovery ensued.

A Point in the Early Diagnosis of Coxalgia.—ALEXANDROFF (*Revue de Therapeutique*, January 15, 1897), in the early diagnosis of hip disease, lays especial weight upon the two signs of atrophy of the muscles and hypertrophy of the subcutaneous adipose layer. He attributes to this latter symptom a great value, for it may exist when all other symptoms are wanting, and in its absence the diagnosis of coxalgia can be rejected. It can be determined by lifting folds of the skin and subcutaneous tissue upon the thigh and buttock, as well as upon the leg and foot. It will be found that on the affected side the fold is from one to four m.m. thicker than on the well side. A special apparatus, called the adipometer, which resembles a pair of calipers, has been designed to measure these folds.

THERAPEUTIC NOTES.

To Remove Papillomata of the Vulva.—MANCIERE (*Centralbl. für die Gesam. Ther.*, January, 1897) recommends mixture of flexible collodion five parts, and salicylic acid two parts, of which a single drop is to be applied to each wart. At one treatment eight or ten may be touched in this manner. On the following day the application is made to a number of others, and also to those previously treated. This is kept up daily until all are gone. The collodion does not affect the healthy tissue.

The Treatment of Painful Cystitis in a Woman by Vesical Curetting.—CAMERO reports (*Revue de Therapeut.*, February 1, 1897) twenty-nine cases in which this treatment was carried out through the urethra without distending this passage. After the curetting a catheter was left in for two or three weeks. A favorable result was obtained in two-thirds of the cases. In many patients the cystitis is located in the trigonum, and is therefore accessible for curetting. If this treatment fails, suprapubic cystotomy may be performed.

Ichthyol Internally.—GUNSBURG tells in the *Revue de Therap.*, February 1, of the internal administration of ichthyol to seventy patients in his gynecological clinic. The sulphichthyolate of ammonia was the form of the drug employed, and it was given in pill form to the amount of two to three grains per day. The drug had a favorable influence on the dyspepsia, complicated by constipation, which is so common in patients of this class. Defecation became normal and occurred daily. The appetite improved, abdominal pain grew less or disappeared altogether, while in many patients menorrhagia was also cured. No unpleasant effect whatever followed this treatment.

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SATURDAY, APRIL 10, 1897.

PUBLIC SCHOOLS AS PERPETUATORS OF INFECTIOUS DISEASES.

If any decided advance is to be made in suppressing contagious diseases among children, quarantine regulations in schools would seem to be a necessity. No better demonstration of this fact need be sought than is contained in the report of the first day's work of the school inspectors recently appointed by the New York Board of Health. Through the discoveries of these officers 140 children were found unfit for association with their schoolmates, and sent to their homes with notes to their parents informing them of the children's condition. Among these were fourteen cases of diphtheria, three of measles, and one of scarlet fever; thirty-five cases of contagious eye diseases, three of mumps, and one of croup; of parasitic diseases there were fifty-five cases where the head was afflicted, and twelve of the body; and there were eight cases of chicken-pox, and eight of communicable skin diseases.

When one realizes what a focus of dissemination each one of these cases may become in the close air of a crowded schoolroom the wisdom of the health board in instituting this system of inspection is worthy of all praise. The enormous diminution in the num-

ber of infectious diseases such precautions must bring about can be appreciated only by those who know how many mild cases of children's diseases are never seen by a physician. These will now be brought to light by the inspectors who will investigate the cause of absence from school, of children sick at their homes.

The reports of the inspectors seem to justify the claim made by Sanitary Inspector Lynd as the result of his personal investigations, that about two-thirds of all cases of scarlatina and diphtheria and all unusual and severe outbreaks of these diseases can be traced to schools. Under the old régime not only was it the frequent experience to find a disease well advanced in the contagious stage and already communicated to other children of the school before it was detected by parent or teacher, but also in families containing more than one school-attending child, another apparently healthy child was carrying the contagion to other classes or schools. Moreover, children still in a stage of infectious convalescence were quite apt to be returned to school and innocently become the foci of greater or less epidemics. It is to be hoped that the duties of the inspectors will not be confined to sending children home and writing notifications thereof to the Board of Health but that questions of hygiene and sanitation may engage their attention. The condition of plumbing, the practice of the teachers in regard to ventilation, the use of washbowls and towels in common, and last, but not least, the unwashed and offensive condition of some of the children. It is reported that one of the teachers begged the inspector who examined her class to send them all home; they were "so filthy to her eyes and nose that they made her sick."

REQUIREMENTS OF HEALTH BOARDS.

In the issue of the MEDICAL NEWS, February 13th, appeared an announcement headed "The Minimum Requirements of the Pennsylvania Board of Health for the Production of Vaccine Virus, Antitoxin, Tuberculin, and Other Animal Products Used in Medicine." In this certain rules appear, followed by the statement that "no vaccine virus or other animal products will be approved by the State Board of Health of Pennsylvania unless propagated in accordance with the provisions of the aforesaid rules."

The methods of production and distribution of products, the character of which so intimately con-

cerns the health of the people of a State, may well be the care of a State board of health. In a similar way the Boards of Health of New York and other cities have already exercised their authority to prevent the sale of certain unreliable antitoxins. Still, such extension of the authority of a health board is of comparatively recent origin, is not guided in its method by a long series of precedents, and therefore every instance becomes in itself a precedent of importance. So much the more care should therefore be taken that no unnecessary regulations be made; that all those made be well considered, and that in particular no decrees be promulgated about the wisdom of which there is not general agreement among competent judges.

The requirements of the Pennsylvania Board of Health, as stated in the above-mentioned announcement, do call, however, for the adoption of many measures which can in no way be considered necessary. Thus, for the production of the best vaccine it is not necessary that the walls of the stable should be of either painted boards or whitewashed plaster; it is only advisable that they should be tight and easily cleaned. The floor may well be of something else than the prescribed concrete. Animals less than the required three months of age may produce vaccine of the best quality; it is not necessary that the food should contain grain, when, as sometimes happens, the animal is a milk-fed calf. In the fifth regulation it is stated that "stables should be liberally bedded with clean white straw, hay, dry sawdust, or German peat. The latter, from its great absorbent power and antiseptic action, is highly commended." Bedding may well be of other material—excelsior, for example. German peat has not been shown to have any antiseptic action. In the same regulation it is observed that "in the winter term a temperature of 62° F. is correct." Is this a necessity, or would 60° or 65° F. be acceptable? In the sixth regulation it is stated "that animals should be . . . washed thoroughly, if necessary, in such a manner as to render them practically *antiseptic* before operation." It may be supposed that the author meant that the skin should be made aseptic, but this requirement is also unnecessary, and is, in fact, impossible of accomplishment. The same is true of the requirement that "the skin of the animals should be kept sterile at all times."

The regulations say that the "walls of the operating room shall be washed with bichlorid of mercury *from time to time*." Rules so inexact can hardly win respect.

These do not by any means exhaust the list of inadvisable regulations, but they do emphasize the obvious conclusion that before such a list of requirements is issued by an authoritative body it should be carefully revised, and that the really valuable regulations, such as the one in the present list, that "every package of virus must have on it the name and address of the propagator and the date when the virus was taken," should not be covered up by a mass of other directions, impracticable in some cases, because of their misdirected minuteness, and objectionable in others, because of the impossibility of carrying them out.

The requirements for the production of antitoxin, tuberculin, etc., are less fully given, but are stated to be similar to those for the production of vaccine. The total difference in nature between tuberculin and mallein—the toxic products produced by the growth of the tubercle and the glanders bacillus—the curative serums obtained from the blood of animals and vaccine, from the serum and pulp of skin vesicles, do not seem to be appreciated by the authors of the circular.

It is eminently proper for health boards to require that samples of antitoxin, vaccine, and other bacterial and animal products shall have stamped on them the name of the dealer or manufacturer, their strength, and the date upon which they were tested or produced. It is also advisable that samples should from time to time be bought in the open market and carefully tested. It would seem, however, that great caution should be observed in making minute directions for the preparation of these products, because methods are constantly changing. Even assuming that the regulations promulgated are at the moment of their adoption the very best possible, yet before their distribution can be accomplished they may have already been superseded by better.

ECHOES AND NEWS.

A Princess as Trained Nurse.—Princess Frederick Leopold of Prussia is undergoing a regular course of training as a hospital and field nurse.

The College of Physicians and Surgeons of Chicago.—This institution has recently become legally the Medical Department of the University of Illinois.

The New York Colored Home and Hospital.—This institution has sold its property at the corner of Sixty-fifth street and First avenue for \$210,000, and will secure a new site in the uptown suburbs.

Letters of Asylum Inmates.—A bill is pending before the Michigan legislature giving the inmates of insane asylums the right to correspond by letter with their friends of the outside world, unmolested by the officers of such asylums.

Hospital Property Exempt from Taxation.—A bill has been introduced in the New York legislature exempting from taxation that part of the New York Ophthalmic Hospital property that is rented out for the purpose of raising money to support the hospital.

A Victim of Cigarette Smoking.—A young man, aged twenty, died recently in Bellevue Hospital from nicotine poisoning. He was a victim of the cigarette habit, and frequently smoked, according to his father, as many as sixteen packages of cigarettes in a day.

Appointments of English Physicians.—Mr. Frederick Treves, F.R.C.S., has been appointed by the Duke of York Surgeon-in-Ordinary to His Royal Highness, and Dr. A. R. Manby, Surgeon-Apothecary to His Royal Highness' household at Sandringham.

Ambulance Kills a Horse.—A Bellevue Hospital ambulance, in which were two patients, recently ran into a horse attached to a wagon. The shaft of the ambulance penetrated the shoulder of the horse and killed it instantly. The patients were shaken up somewhat, but sustained no injury.

The Chicago German Medical College.—The German Consul at Chicago having reported to the home government unfavorably on the Chicago German Medical College, and its alleged sale of diplomas, the Prussian government has ordered that all persons publicly exhibiting a degree obtained from that institution are to be prosecuted.

Improved Tuberculin.—Prof. Koch publishes in the *Deutsche Medicinische Wochenschrift* the result of his latest experiments in the treatment of consumption. He says that he has greatly improved his tuberculin. The bacilli which form the basis of the lymph are now destroyed as living organisms, while their curative properties for the early stages of the disease are retained.

Free Beds for Sick Doctors.—The Trustees of the Philadelphia Polyclinic and College for Graduates in Medicine have set aside one room in the Polyclinic Hospital for the use, free of charge, of any member of the Mutual Aid Association of the Philadelphia County Medical Society, whose financial circumstances require such concession in regard to hospital charges.

New Hospital for Negroes.—The city authorities have decided to erect a modern hospital in Harlem at a cost of

\$300,000. The site for the new hospital is not yet selected. One location proposed is on the northwest corner of 124th street and Madison avenue. The present hospital grounds at the foot of East 120th street have also been mentioned.

Opposition to Board of Health Inspectors.—Dr. R. M. Levenson, representing the International Homeopathic Society, is reported to have said in discussing, before the mayor, the provisions of the charter of the Greater New York relating to communicable diseases: "I would take a revolver and shoot down the health officer or policeman who would undertake to break into my house."

Fire at the Manhattan State Hospital.—The damage done by the recent fire in the Manhattan State Hospital for the Insane on Ward's Island is estimated at about \$100,000. The success with which all the patients were removed from the burning building is an instructive comment on the organization and discipline of the institution. The patients whose accommodations were destroyed have been distributed among the branch hospitals.

Small-Pox in New York.—The Bureau of Contagious Diseases is fighting a small wave of small-pox which started among the Park row lodging-houses two weeks ago. Since that time eleven cases have been discovered. The disease has broken out again in the New York Hospital. All the victims and people exposed to the infection are accounted for and kept under careful supervision. The corps of vaccinators has been kept actively at work.

Bubonic Plague Attacks the British Troops.—A special despatch from Bombay says that the plague has broken out among the British troops at Calaba. According to the official list published in Bombay, the total number of deaths in that city for the week ending April 2d was 1111. Of these, 455 were due to the bubonic plague. During the last fortnight five cases of Europeans attacked by the disease have been officially reported. Two of these have proved fatal.

Pathological Society of Philadelphia.—The annual conversational meeting of the Society will be held in the Upper Hall of the College of Physicians, northeast corner Thirteenth and Locust streets, on Thursday, April 22, 1897, at 8.15 P.M. Dr. Ludvig Hektoen, Professor of Morbid Anatomy in Rush Medical College, will deliver an address, entitled "Segmentation and Fragmentation of the Myocardium." After the meeting a reception will be tendered Dr. Hektoen at the University Club, 1316 Walnut street. A cordial invitation is extended to attend the meeting and the reception.

Temporary Control of the Insane in New York.—The Medical Society of the County of New York, the New York Neurological Society, and the Society of Medical Jurisprudence are seeking an amendment to the insanity law which has been in operation since July 1, 1896, providing for the temporary commitment of dangerous or violent lunatics for five days upon the sworn certificate of two authorized medical examiners in lunacy, pending the outcome of the legal proceedings for final commitment. Dr.

P. M. Wise, chairman of the Lunacy Commission of the Senate, has returned it without his approval, saying that the present law had not been in operation long enough to attempt to change it. The bill is not without friends, however, for Senator Ford has promised to father the amendment in the Senate and urge its passage in the Assembly.

Duties on Mineral Waters.—Petitions to Congress often receive scant, if any, consideration, but it is to be supposed that favorable attention will be accorded by the United States Senate to the petition which the leading medical men of New York and other cities are presenting relative to the exorbitant, and in some respects prohibitive, duties proposed for mineral waters in the Dingley tariff bill. Mineral waters should receive special consideration by Congress, as they are valuable and necessary agents of hygiene and medicine. In fact, in previous tariff revisions Congress distinctly expressed itself in favor of free mineral waters, and as a result they have been on the free list over a quarter of a century. From the standpoint of the profession, no change in the conditions has occurred which would warrant a high duty on these products of nature.

A Keen Swindling Game.—Swindlers have been operating in Passaic, N. J., for the past week, and are said to have fleeced a number of physicians. A man and a boy about sixteen years old worked the game. The man would drive in a buggy to the residence of a physician, and summon him hurriedly. The boy always accompanied the man. His clothes would be very dusty, and he would be carried into the office of the doctor. There the man, who was evidently a Hebrew, would explain that the boy had been run over, and request an examination. When the doctor found that the boy had not been injured, although he complained of pains in the back, the man would ask the charge. The fee was generally \$1, and in payment the man tendered a check for \$5 on the First National Bank, drawn payable to Wallace Lawrence. The doctors usually cashed the check, giving \$4 in change, and then, with apologies for disturbing him, the man and boy drove off. When the checks reached the bank, they were returned as worthless.

An Epidemic of Hiccough.—Miss Lucy Marshall of Centralia, Mo., began to hiccough last Christmas Day, and has been unable to stop since, although the best medical advice has been obtained. She is unable to sleep longer than a few minutes at a time, and may die if not relieved soon. About two weeks ago her younger brother began to hiccough, and has continued ever since. On March 28 a younger sister commenced hiccoughing and cannot stop. The malady threatens to affect the entire family, the members of which feel much alarm.—Louis A. Levy of Jersey City was attacked by hiccough while reading a newspaper in his store on February 26th. The hiccough has continued at intervals ever since. At first the spasms recurred every eight minutes. More recently the spasms recur only at intervals of three hours, the patient being able to take nourishment and sleep in the intervals.—William Bond of Glen Cove, L. I., who has suffered

from two attacks of prolonged and incessant hiccoughing, is still very weak, although the doctors have succeeded in stopping the spasms.

One of the Uses of Microbes.—Dr. De Schweinitz, in his presidential address recently delivered before the Chemical Society of Washington, said: "When milk and cream are first collected they are almost free from germs; but exposed to the air, they soon become filled with those forms of life which are perfectly harmless. If placed under suitable conditions with regard to temperature, they will multiply very readily, and the milk becomes sour, due to the formation of lactic acid produced from the sugar in the milk by one or more of these germs. If the germs present happen to be those giving an ether and ester which have a pleasant flavor and aroma, good butter results; but if they give rise to the formation of disagreeable thio ethers and esters or some amines, the butter is poor and bad. Now, by isolating different germs found in the milk, and cultivating them separately so as to discover their own peculiar product, it is possible to always make butter of the same sort and flavor by first destroying the other germs present by Pasteurization and then inoculating the cream with the particular germ desired. A number of germs have been isolated from milk which will produce good butter, and any one of them is perhaps as good as the other, the ethereal product being slightly different and more palatable to different individuals. Of course, a great many germs have been found which produce disagreeable compounds, and it is not possible to tell from their appearance simply which is a desirable plant, but it is easy to cultivate them in milk and note the results, and select the desirable plant cell. Fortunately, or unfortunately, the use of these germs has been patented, so that in the near future we may see branded upon particularly fine butters and cheese, 'patented in 1893, amended 1896, reissued 1908,' etc. May we expect soon a patented process for breathing, eating, and sleeping?"

Obituary.—Dr. John O. Bronson died March 28th at his home in Rhinebeck, New York. He was born in Glastonbury, Conn., 1827, and was educated at Yale College and the New York Medical College, in which he became Professor of Anatomy in 1857. Several years later he took a course in hospital work abroad, and at the breaking out of the war he was appointed Chief Medical Director of the Department of the Pacific, which he filled for two years. He then served until the close of the war as Chief Medical Officer of the Department of the South. He returned to the practice of his profession in New York City, and remained there until 1880, when he retired. For a number of years Dr. Bronson was interested in the development of the State of Florida. Through his influence, the Alabama, Florida, and Atlantic Railway Company was formed. It built 550 miles of railroad, and opened up the entire Northwest to the productions of Florida.—Dr. Felix Cipriano Coronel Zegarra, well known in the United States as the representative of Peru at the Pan-American Congress, died at Lima, Peru, March 29th.—Word has just been received in Brooklyn of the death

from jungle fever last January in Central Africa of Dr. Samuel G. Armour, a young physician in the service of the Belgian Government. He obtained his education at the Long Island College Hospital, where his uncle, the late Dr. Armour, was Dean. Dr. Armour graduated in 1892, and was interne at the hospital for two years. About a year ago, together with a number of Americans, Dr. Armour signed contracts with the Belgian Government to go to Congo Free State. It was a part of their mission to deal with the Arab slave hunters who infest portions of that country and break up their traffic. Dr. Armour sailed from this city for Brussels February 15, 1896. He landed at Boma, a town situated at the mouth of the Congo River, and proceeded, with his companions, up the river to Stanley Pool. There they were assigned to their stations.—Dr. Joseph F. James died at Hingham, Mass., March 30th. He was born in Cincinnati in 1857. Dr. James was Professor of Botany in the Cincinnati College of Pharmacy from 1880 to 1889, and Professor of Physiology, Biology, Geology, and Botany for two years at Oxford, O. He studied medicine at Washington Columbia School, graduating in 1895. After graduating, Dr. James took a course of lectures at Guy's Hospital, London, and at London Hospital Medical School. He leaves a wife and two small children.—Dr. George B. Twitchell, one of the leading physicians in New Hampshire, and President of the Keene Humane Society, died in Keene March 30th, aged seventy-seven years. He was a native of Virginia, a graduate of the University of Pennsylvania, and served with distinction during the civil war.—Dr. F. D. Dubois, for twenty years physician at Blooming Grove, Orange County, New York, died March 30th of pneumonia, aged fifty years.—Dr. Jonathan Burtis died in Hartford, Conn., March 31st. Death was due to stomach trouble. He was born in Epsom, N. H., June 11, 1821.—Dr. Walburg Coleman, a son of the late Dr. James Coleman, died in Trenton, N. J., March 31st, aged fifty-one years. He was at one time Surgeon-Major of the Seventh Regiment, N. G., S. N. Y.

CORRESPONDENCE.

NOTE ON THE SERUM-TEST FOR TYPHOID FEVER.

To the Editor of THE MEDICAL NEWS.

DEAR SIR: I desire to record the following brief note on a case of typhoid fever in its relation to the serum-test, in the hope that a certain peculiar feature may make it of value in the statistics of some future writer.

John M., aged thirty-five years, was seen by the writer January 3, 1897, suffering from what was believed to be typhoid fever. The diagnosis was based chiefly upon the temperature range, for there were no diarrhea, spots, or nosebleed. Tenderness was present only in the right iliac fossa, which, with the absence of important typhoid symptoms, made the diagnosis of catarrhal appendicitis probable.

To settle the uncertainty I decided to have the serum-test made, so at the close of the second week of the fever a specimen of the patient's dried blood was sent to the

Bacteriological Department of this city for examination. Although the department was not at that time ready for the general examination of such cases, the acting chief made two careful tests and notified me that the reaction was negative and that the case was probably not typhoid.

All fever disappeared by the eighteenth day, and, after eight days of normal temperature a mashed potato was allowed. A relapse followed, running twenty days. Still there were no diarrhea, spots, or nosebleed, and the tenderness in the right side returned. The question of catarrhal appendicitis or typhoid fever remained undecided. About the middle and at the end of the relapse dried specimens of the patient's blood were sent to the department for further examination. Both of these specimens gave a marked reaction in a few minutes.

In a paper, upon the serum-test, by Drs. Bigg and Park (*Amer. Jour. of the Med. Sciences*, March, 1897), besides a statistical study of former reports, a detailed history of four cases was given. Three of these cases had relapse, and it is a significant fact that in two of them careful examination failed to get the reaction during the first attack of one case, and was not marked save in a dilution of one part of serum to four of culture, in the second case; while in both cases, as early as the second day of the relapse, an immediate marked reaction was found in a dilution of one to ten.

It has been found that in those cases of pneumonia where leucocytosis does not take place, it is safe to give an unfavorable prognosis. It is an evidence that the forces which fight for health and life are unable to subdue the disease.

In the light of these three reports may it not be found that the absence of the reaction during the first attack will prove an important warning that nature is not preparing enough antitoxin to make a recovery safe from a relapse?

Certainly, until fuller knowledge convinces me of the contrary, I shall be particularly solicitous during the convalescence of any patient suffering from typhoid fever where this action is absent or indefinite.

I write this in the hope that future reporters will notice this feature.

Very truly yours,

W. C. CAHILL, M.D.

PHILADELPHIA, March 30, 1897.

OUR PHILADELPHIA LETTER.

[From our Special Correspondent.]

PHILADELPHIA OBSTETRICAL SOCIETY—THE DEATH-RATE FROM DIPHTHERIA—FILTRATION BY ELECTRICITY—COLLEGE-BRED MEDICAL STUDENTS—DR. JOHN H. EGAN—THE BOARD OF CHARITIES AND CORRECTION—COMMENCEMENT OF THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF PENNSYLVANIA.

PHILADELPHIA, April 3, 1897.

At a stated meeting of the Obstetrical Society, held on April 1st, Dr. H. A. Hare read, by invitation, a paper on "The Value of Quinin in Labor." Dr. Hare discussed the matter from every standpoint, and showed, by collected opinions of the leading obstetricians in this country, the great diversity of opinion which exists as to

the value of quinin as an oxytotoxic, and as a stimulant in uterine inertia during labor. The drug was regarded by Dr. Hare as a general stimulant, rather than as one possessing a direct action on the uterus.

Dr. C. P. Noble read a paper on the operation of hysterectomy following previous removal of the uterine appendages, and considered the symptomatology of the menopause after hysterectomy and after salpingo-oophorectomy. He cited six cases on which he had operated, and, along with Dr. Baldy, who discussed the paper, took the ground that the operation was an unsatisfactory one, and that the symptoms which were considered as indications for the operation were due rather to trouble in parts of the body other than the uterus, notably in the arterial supply.

Dr. George M. Boyd reported a case of retention of urine simulating pregnancy. In this case an immense vesical distension caused the woman to imagine herself pregnant; fifteen quarts of urine were withdrawn by catheter during the twenty-four hours after she first consulted Dr. Boyd, with the result that the tumor disappeared, and natural action of the bladder was recovered within the next four days. Dr. John C. Da Costa, in the discussion, recalled similar cases, and cited one in detail, which had been sent to him as a case of ovarian tumor. The use of the catheter removed both tumor and symptoms, nine quarts of urine being withdrawn.

During the past year the death-rate from diphtheria at the Municipal Hospital was 22.2 per cent. Of the 869 cases of diphtheria admitted to this institution during 1896, 553 received the antitoxin treatment in addition to other approved methods of treatment, and of these 142 died, a mortality of 25.67 per cent. Three hundred and sixteen other cases were treated by remedies other than antitoxin, and of these 51 died, a death-rate of 13.29 per cent. At first glance it would appear that this 12.38 per cent. difference in the death-rate demonstrates a decided failure in the serum treatment, but from the statement of the physician in charge of the hospital, Dr. William M. Welch, that a scientific test of antitoxin was not attempted, it may be inferred that the cases not receiving antitoxin were those of a character so mild as not to require it, and, therefore, of a low mortality. On the other hand, assuming that the severer cases received the serum injections, with a death-rate of over 25 per cent. as the result, does it not seem that the antitoxin has failed to materially improve the outlook in dealing with this dangerous malady?

The bacteriologic and chemic investigations which are being made to determine the efficacy of a new system of water purification by electrolysis are exciting interest in medical and sanitary circles. The water to be purified runs through a long wooden trough, in which are suspended three parallel sets of aluminum plates, the positive and negative being arranged alternately. On one side of the trough runs the positive, and on the other side the negative wire from a dynamo, between which the sets of aluminum plates are joined by "multiple connection." The water, flowing between these rows of plates is decomposed by a current of about twenty amperes, the resulting hydrated oxid of aluminum carrying to the bottom of the trough the heavier impurities, while the lighter im-

purities are floated to the surface by the gases of decomposition. The former are removed from the water by being dumped through a false bottom of the trough, and the latter are carried away by scrapers. A blast of a mixture of ozone and condensed air, forced through the water as it leaves the trough, completes the process. It is said that by this system a plant 100 by 200 feet in extent will "filter" 20,000,000 gallons of water daily, and that the cost of construction would not exceed \$75,000. The amount of electrical current necessary for such a plant can easily be furnished at the expense of 50-horse power a day, so that it would appear that the cost of maintenance is inconsiderable.

Out of the total of 920 students in the Medical Department of the University of Pennsylvania, 230 have taken academic degrees, and over 100 additional have pursued for one year or longer collegiate courses prior to their matriculation in the medical school. This proportion of college men is an encouraging sign of the tendency toward a better-educated class of students in our medical colleges, and will undoubtedly increase hand in hand with a higher standard for admission to studies for the doctorate.

Dr. John H. Egan, who for the last five years has been Chief Resident Physician and Registrar of the Medico-Chirurgical Hospital, has tendered his resignation to take effect immediately. This action was taken by Dr. Egan on account of his desire to engage in general practice.

The appointment of the Board of Directors of the Department of Charities and Correction, who control the management of the Philadelphia Hospital, is a matter of real interest to many members of the medical profession in this city, and especially so this year, because of the rumored change in the *personnel* of the Board. The appointment of the directors will be made by the mayor on the fifth of the month, and the names of Drs. J. William White, Conrad Berens, and T. H. Andrews, are prominently mentioned in connection with the places.

The 123d annual commencement of the Medical Department of the University of Pennsylvania will be held on Wednesday, June 9th. The exercises will be conducted in conjunction with those of all the other departments of the university for the first time in ten years.

OUR PARIS LETTER.

* [From our Special Correspondent.]

TREATMENT OF CERTAIN NERVOUS DISEASES—OVERCROWDING OF THE MEDICAL PROFESSION IN FRANCE—EXPENSES OF A MEDICAL EDUCATION.

PARIS, March 8, 1897.

One hears Flechsig's combined opium and bromid treatment for epilepsy highly commended for cases that have proved recalcitrant to the bromid alone. It is no uncommon thing to see at the Salpêtrière, however, cases that are said to have been treated by bromids, sometimes in large doses, without noticeable improvement, improve rapidly, nevertheless, under a systemized course of the bromids. The system of dosage of the bromids comes from Charcot, who found it extremely satisfactory in the routine treatment of epilepsy, or, as it is often euphemis-

tically called here to avoid wounding the feelings of sensitive patients or their friends, "*mal comitial*," the comitial disease.

The formula given is:

B Sodii bromid.	} aa 23 grams
Ammonii bromid.	
Potassii bromid.	
Aquæ	1000 c.c.

During the first week (in ordinary cases) three teaspoonfuls a day is given; during the second week four teaspoonfuls; during the third week five teaspoonfuls, and then the original dosage is resumed and the course begun over again. When the case is more serious the dosage begins with a higher number of teaspoonfuls, but is increased in the same way. The merit claimed for the treatment is that it gets the patient thoroughly under the influence of the bromids with the administration of the least possible amount of the drugs.

Arsenic does not seem to be combined with the bromids as regularly as with us, but special attention is paid to cutaneous cleanliness and to intestinal antiseptics. Regularly frequent baths and douches are insisted on, something that does not seem unusual over here where the value of hydrotherapy as an adjuvant to other therapeutic measures seems much better realized than in America. As the intestinal antiseptic, benzonaphthol is sometimes used, but salol is much more generally employed, and Marie is even of the opinion that its "crossed action" adds to the direct therapeutic effect of the bromid. Now that urinary hypotonicity in epilepsy is being more and more acknowledged, and the theory that it is in a certain sense a toxemia is gaining ground, this cross action of salol by its antiseptic effect on the great manufactory of toxins—the intestines—becomes easier to understand.

For the vertigo of Ménière's disease, of which one sees a number of cases, Charcot's empiric use of quinin in large doses is highly commended. It has not succeeded as well outside of France, but here, such great teachers as Raymond, Marie, and Gilles de la Tourette, insist that it *never* fails. The treatment is extremely unpleasant to the patient for a week or two, all the symptoms becoming more pronounced, and he has to keep his bed, but certain improvement is promised. All the same, the use of the salicylates on the same empiric grounds, is suggested and they are sometimes used when the quinin fails.

For chorea, antipyrin is used routinely instead of arsenic, though sometimes the two are combined. One of the nervous specialists said the other day, though not for authoritative publication I think, that it did not make much difference what remedy was used in chorea, that it was always the improvement of the general health that was the signal for the disappearance of the troublesome symptoms, and that no remedy seemed to affect them unless that was secured.

In Europe, almost more than in America, if possible, the serious complaint is being heard that the medical profession is becoming overcrowded. In France this has been the subject of a good deal of writing in the medical journals recently. Paris has now one physician to about every 600 of population, and other places are comparatively no

better (or worse) off in this respect. The different universities of France have nearly 10,000 medical students in attendance (Paris alone has nearly 5000 of these) so that the state of affairs promises to grow worse rather than better. The great mass of the French working people, unlike our own, are unable to pay a physician at all, or able to pay him very little, and the dispensaries are crowded with patients. It is not any wonder, then, that the French doctors are in favor of measures that will tend to restrict the number of practitioners. Hence, the recent addition of a year to the time necessary for preparation for the medical degree, and the recent stringent regulations which practically exclude all foreign practitioners and even discourage the attendance of foreigners at French universities unless they expect to practice outside of France. Various suggestions have been offered that might help to deplete somewhat the number of practitioners in France. Professor Brouardel, the dean of the medical school, has recently publicly called attention to the fact that there are in Canada 1,500,000 French-speaking people who would prefer to have French-speaking doctors and who cannot always get them easily. Splendid opportunities, it is also pointed out, are open to the French medical men in South America. Frenchmen, however, are deeply attached to the soil, and find it extremely hard to expatriate themselves, so that these suggestions will prove of doubtful utility.

Recently the medical journals have been laying stress upon the expenses connected with obtaining a medical education and the comparatively small returns for the general mass of practitioners in the hope of discouraging parents from allowing their sons to take up the practice of medicine as a life-work. The figures are interesting. It costs from 20,000 to 30,000 francs (\$4000 to \$6000) for the five years of a medical education, and another 5000 francs are set down as necessary to launch the young practitioner on his medical career. The modern doctor is evidently a high-priced product of our nineteenth century civilization everywhere, but the law of supply and demand holds good for him as for everything else, and the crowding of the profession is fast cheapening his personal value.

TRANSACTIONS OF FOREIGN SOCIETIES.

London.

TRAUMATIC NEURASTHENIA—THE DEATH-RATE OF NEPHRECTOMY REDUCED BY THE USE OF THE CYSTOSCOPE—SUBSTITUTION OF THYROID COLLOID FOR THYROID TABLETS—THREE CASES OF RAPID ABSORPTION OF AN ABDOMINAL TUMOR—A PLASTIC OPERATION FOR ULCER OF THE LEG.

HORSLEY read a paper on "Traumatic Neurasthenia" before the Medical Society, February 22. He grouped the cases under four heads according as there was, or there was not, an external injury, and according as the result occurred immediately after the receipt of the injury or at some later period. There is no essential difference between cases of traumatic neurasthenia and ordinary neurasthenia from overwork. Important symptoms are inability to concentrate the attention on any particular subject; disturbances of sleep, especially in the form of

early waking; and the occurrence of nightmares or somnambulism. General paresis with twitchings, spasms, and local paralysis usually in the form of hemiplegia of one lower limb sometimes occurs. The tongue is often deviated toward the paralysed side. Smell, taste, and hearing are rarely affected; sight more often so, usually in the form of asthenopia. Various subjective sensations of touch are complained of. Superficial reflexes are at first increased and then abolished, and there is usually ankle clonus. The painful manifestations are usually well localized, especially in certain spots, as, for instance, over the bregma, over the areas served by the posterior branch of the second cervical and the sixth dorsal nerves, the dorsolumbar juncture, etc. Patients often complain of palpitation, particularly at night. The quantity of urine is greatly increased and the percentage of solids diminished.

All of these symptoms are explicable on the supposition that the disease is a disturbance of the central nervous system, and Horsley's experience has convinced him that none of the severe cases recover until they have undergone a course of the Weir Mitchell treatment. Relapses are very likely to occur, even after long intervals of apparent recovery.

CHURTON has seen a number of cases to which formerly the term "miners' neurosis" was applied. The illness was imperfectly understood, and was variously ascribed to ineffective hygiene, syphilis, alcohol, tobacco, etc. It was found, however, that miners often received more or less severe blows on the head or spine, even to the extent of causing unconsciousness, to which they attached so little importance, that they did not think it worth while to mention them to a doctor, but inquiry along this line has shown that there is in almost every instance a distinct history of traumatism. Churton feels that very few of the railroad cases at present met with belong to the class of malingers, for long after the question of compensation has been settled they sometimes develop myelitis.

FENWICK called attention to the *high death-rate of nephrectomy*, which is largely due to the removal of kidneys which have become affected by tuberculous or malignant disease. One of the chief values of the cystoscope is its use in helping us to determine the working capacity of the kidneys. A judicious and skillful use of this instrument not only renders the surgery of the kidney more precise, but also tends to lower the death-rate. No patient with tubercular deposits in the epididymis or the prostate or obvious disease of the bladder should be examined. Carelessly employed, the cystoscope has a death-rate of its own, and it would be better to do exploration on both kidneys than to damage both of these organs by the ascending septic changes brought about by bungling work in the bladder.

All cases of profuse hematuria, either without symptoms or accompanied by slight renal pain, should be judiciously examined with the cystoscope without delay, an operation on the kidney or bladder being permitted and carried out with this cystoscopy. All cases of severe symptomless pyelitis, without implication of the lower urinary or geni-

tal tracts, should be judiciously cystoscoped to demonstrate the working capacity of the kidney and to locate the diseased kidney. In women, Kelly's method of catheterization of the ureters is probably a more certain form of exploration. Fenwick has performed nephrectomy after cystoscopy twenty-one times with two deaths, and he attributes this favorable mortality to the use of this instrument.

LOCKWOOD was surprised that Fenwick should declare himself against suprapubic cystotomy with scraping in cases of tubercular ulceration of the bladder, for he has seen several cases in which the operation had afforded great relief. In reply, Fenwick said that small and single ulcers were favorable cases for treatment by suprapubic cystotomy and scraping, and it is difficult to say positively whether these cases are tuberculous. When the tubercular ulceration is extensive scraping can do little good.

At a meeting of the Border Counties' Branch of the British Medical Association, held February 12, PARKER described his experience with *thyroid colloid and thyroid tablets*. He has been especially successful with thyroid treatment in producing the decrease of adipose tissue. In two years he has given over ten thousand thyroid tablets. Recently he has been using tablets made of the colloid constituent in the thyroid gland, and, as a result of these experiments, he has come to the conclusion that a tenth of a grain of colloid is about equal to five grains of thyroid. In some patients he was able, with colloid, to reduce the weight nearly a pound a day without any bad symptoms. He had encountered only one failure. This patient was a woman weighing 173 pounds. She received the same dose he had given to the other patients, and after about three weeks she weighed practically the same as she did before. He had found in cases where patients had taken thyroid extract in undue doses, say about four a day, there was an increase of pulse, and the patient was hot and feverish, sickly, and lost appetite.

At the meeting of the Leeds and West Riding Medical and Chirurgical Society, held February 5th, CHURTON showed *three cases of rapid absorption of tubercular masses in the abdomen*. A boy, aged ten years, with ascites, was given one grain of iodoform in extract of gentian every four hours. Four weeks later the fluid was all gone, but two thick masses remained, one extending from the left costal margin to the umbilicus, and the other in the right lower epigastrium. Four months later there remained only a small area of thickening above and to the right of the umbilicus.

A woman, aged thirty-seven, was admitted to the hospital, with a morning temperature of 98° and an evening temperature of 102° F. Similar treatment was followed out in her case, with the addition of five grains of quinin three times a day. In five weeks the ascites disappeared, and the patient returned home. Six weeks later her abdomen again began to enlarge, and four months after her first admission she was readmitted, and 440 ounces of serous fluid was withdrawn by trocar and canula. A mass the size of two small fists was found in the mid-abdomen. The patient was put upon two grains of iodo-

form, three grains of extract of gentian, and one ounce of quinin mixture (three grains) three times a day. In two months the mass had entirely disappeared. In a man lately under observation, less favorably placed and less healthy, the absorption of a similar mass occupied nearly a year.

TEALE described a case of biliary colic and jaundice, supposed to be due to obstruction of the common duct by a gall stone. Operation was decided upon, but was postponed because the patient was certain some change had taken place in the position of the stone. The next movement contained bile, and a fortnight later, after severe rigor and intense pain, followed by the symptoms of general peritonitis, the patient recovered. Unfortunately, all of the stools were not sifted for gall stones, and none was found. The case is interesting as illustrating the spontaneous recovery after a complete blockage for eight weeks and three days.

WALLIS showed a man, at the session of the Clinical Society, held February 26th, who had a large intractable ulcer in front of the shin, the result of traumatism, which had increased in spite of the ordinary treatment. He made two long longitudinal parallel incisions, each, at its center, an inch and a half from the adjacent edge of the ulcer, and having separated the skin from the subjacent tissues, he freshened the edges of the ulcer, and brought them together in the middle line, leaving two gaps representing the lateral incisions, which he filled in by Tiersch grafts. The result, on the whole, had proved very satisfactory, although healing had not yet become entirely complete.

SOCIETY PROCEEDINGS.

NORTHWESTERN MEDICAL AND SURGICAL SOCIETY OF NEW YORK.

Stated Meeting held December 16, 1896.

The President, DR. HENRY LING TAYLOR, in the Chair. J. BLAKE WHITE, M.D., read an address in memoriam of Dr. Thomas H. Burchard.

A. R. ROBINSON, M.D., then read the paper of the evening, entitled

THE IMPORTANCE OF EARLY TREATMENT OF CANCER,

which he illustrated with a number of drawings and photographs. (See page 449.)

DISCUSSION.

DR. WILLIAM STEVENS said that he had been present not long ago at an operation performed by Dr. Abbe, in which he had removed an eye from a woman thirty-three years of age, who had been operated upon five times during as many years for epithelioma of the inner corner of the eye. He asked the author if there was not at times great difficulty in differentiating epithelioma of the lips and mouth from chancre.

DR. ROBERT NEWMAN agreed with the author in his opinion that cancer was a local, and not a constitutional disease, although authorities did not agree on this point.

The only obstacle to early treatment was the fact that patients did not consult the physician early enough.

DR. J. H. FRUITNIGHT referred to the fact that the progress of the disease was usually slow unless there was external irritation, in which case it was unwise to defer treatment. He had recently referred three cases to Dr. Robinson, all in the early stage, before ulceration had begun, and the disease had been thoroughly eradicated. The scars were insignificant.

DR. L. DUNCAN BULKLEY agreed with the author in regard to early and radical treatment. In many cases he had been present when the knife was used, and had insisted upon a large incision and wide removal. He also thought the term "reappearance" better than "recurrence." As the author had pointed out, the fact that an epithelioma might occur after any injury in which changes took place that could take on malignancy, was a valuable one to bear in mind. The speaker said that he did not use the arsenious paste as much as formerly, for he had found that thorough curetting gave better results. For this purpose it was necessary to use a very small curette, so that it might be drilled into the tissues like a gimlet. The procedure was not particularly painful and could be done without an anesthetic, and the scar which resulted was superficial. He had come to the conclusion that cocain was not desirable in these cases, as it made the healing process slower and much less satisfactory. He had also used chlorid of zinc with good results in cases of epithelioma.

DR. S. H. DESSAU recalled a case which illustrated very forcibly what the author had said in regard to the irritation of these growths. A woman had had a small nodule in the breast, accompanied by pain, for a couple of months, which he had advised her to have removed. He did not see her again for two or three months, but in the meantime she had consulted a quack, who had applied a paste to her arm with the idea of drawing the disease out of the breast. The arm was enormously swollen and inflamed. The breast had not gone on to ulceration nor had the nipple retracted. The woman died shortly afterward.

DR. J. BLAKE WHITE thought there was no doubt that all cases of cancer should be treated early, but that there were some instances in which the powers of the diagnostician would be pretty severely tested, even with the aid of the microscope, in the early manifestations of this disease. He recalled a case in which specimens were given to two microscopists, and they returned different opinions.

DR. JOHN F. ERDMANN asked the author if cystic tumors had ever been known to take on changes characteristic of scirrhus cancer, and also, what treatment he would advise in inoperable cases?

DR. W. GILL WYLIE said that he had had more experience with cancer in other parts of the body than on the face, and that it was even more difficult to get the cases early, because the disease was not in view and did not attract the patient's attention. In cases of cancer of the uterus, he removed that organ completely with the tubes and ovaries, and, sometimes, with the upper part

of the vagina, with very good results. He preferred to do this by the abdominal rather than the vaginal method, because in the former he was better able to determine the extent of the disease. The prognosis in cancer of the vagina was more favorable than in cancer of the uterus, because there was less tendency to lymphatic gland involvement. The cases were usually seen late, because the disease was most apt to appear at the time of the menopause, and the popular belief that "change of life" accounts for every conceivable symptom that occurs is held even by doctors. Then, too, often there was no pain and no hemorrhage in these cases until they were beyond hope. He thought that the "tinkering" which many of these patients receive did much to make the cases hopeless. He had had most excellent results in treating cancer of the uterus by curetting, followed by an application of a saturated solution of chlorid of zinc, protecting the tissues with a solution of bicarbonate of soda. He had never seen a case in which sloughing of the bladder or rectum was caused by it.

DR. J. RIDDLE GOFFE said that with proper attention the early diagnosis of cancer was possible, and, when recognized, the most radical treatment permissible, along the lines laid down in the paper, was demanded.

DR. A. M. JACOBUS recalled the case of a man who for years had had a wart on his neck which was supposed to have been caused by the friction of his collar. Nitrate of silver in the solid stick had been applied, and from that time on the tumor grew rapidly, the glands became involved, and the man ultimately died. The case illustrated the fact that the man might have lived for years had not the growth been stimulated by the nitrate of silver.

DR. R. A. MURRAY said that the author had referred to the knife and arsenious paste as treatment, and asked if he advised nothing else. In the treatment of cancer of the uterus, he thought the best results had been obtained by Dr. Byrne of Brooklyn, by the use of the galvanocautery. In his statistics for the last seven years, Dr. Byrne reported thirty-five per cent. of cures, and in these cases the diagnosis was confirmed by microscopic examination. The cautery destroyed the epitheliomatous tissue by charring, and so mummified it that there was no bleeding. No scarring resulted, and he wondered that it had not been tried in cases of epithelioma of the face.

DR. ROBINSON, in closing the discussion, said that intentionally he had not taken up the subject of different methods of treatment. As the title of the paper indicated, he had dwelt upon the importance of early treatment of cancer, and he had endeavored to show the necessity of this by the etiology and histology of the different types of the disease.

In reply to Dr. Erdmann's question as to whether cysts ever became scirrhous cancer, the speaker said that he had never seen such a case. These tumors were made up of a large amount of new connective tissue cells and plasma cells, and he thought their growth was too rapid to admit of scirrhous changes. He had operated upon what he supposed was a sebaceous cyst on the forehead of a patient, and had found no capsule. Examination under the microscope showed it to be an epithelioma. He removed it

with the knife and applied arsenious paste, and, although three years had elapsed, there had been no reappearance of the disease.

In regard to the treatment of inoperable cases, he said that the profession was not in possession of any means that would have any positive curative effect on the so-called "inoperable" cases of cancer, but that there were many things which would prolong life and reduce the size of the tumor. The patients should be made to follow a course of diet and medicine which would cause a change in the nutrition of the part. This would have an inhibitory action on the organism which caused the disease, less toxin would be formed, and growth proliferation, which depended on the influence of the toxins, would be controlled. If no toxins at all were formed, epitheliomata would have no reason for existence.

THE GERMAN MEDICAL SOCIETY OF THE CITY OF NEW YORK.

Stated Meeting held February 1, 1897.

The President, DR. W. FREUDENTHAL, in the Chair.

DR. SIMON BARUCH read a paper on

FAULTY HYDROTHERAPY,

Which he opened with the statement that, despite its antiquity, water has not yet obtained a firm footing in therapeutics; despite its marked clinical results, it still requires to be brought to the attention of practitioners; despite its espousal by the best authorities in ancient and modern medical practice and literature, the average medical man is not familiar with its history, action, and merits. Dr. Baruch regarded as the chief reason for this state of affairs the absence of instruction in hydrotherapy in the curriculum of medical schools, to which is due the ignorance of the rationale of the action of water and the unfamiliarity with its correct application, which are found among the majority of medical men. The consequent indifference to definite methods has rendered its application in the hands of many unsuccessful and discouraging. Failure is the sure result of inattention to details. As the physician must judge the value of a remedy by his experience, it followed that failure to achieve the results which the experience of others had led him to expect has brought this remedy into disrepute, the fact unhappily remaining unrecognized that not the remedy, but its improper application was at fault.

Although water is a simple remedy and appears to be so easily applied, no remedy in the entire materia medica demands a like judgment and care in its application. As an illustration an incident was referred to, showing how a brilliant young hospital physician shrank from the Brand bath in typhoid fever, because he had seen a patient die under cold-water treatment, which consisted in wrapping the patient in a sheet and sprinkling her with ice water. The object of the Brand bath is to sustain the nerve-centers first and to reduce the temperature secondarily. Although the latter was regarded as an index of gravity in most cases, the bath was not intended to combat it. A bath of 65° F., with friction for

twenty minutes every three hours, whenever the body temperature reached 102.5° F., is calculated to arouse the nerve-centers from their lethargy and give an impetus to all the dormant functions depending upon them. The low temperature of the bath irritates the peripheral sensory filaments, from which the irritation is conveyed to the central nervous system, to be reflected upon the heart, lungs, and secreting organs. Friction adds to the irritation by multiplying it, the cold water being kept in motion; cold affusion over head and shoulders is added to promote the same object. *To whip up the nervous system* (as is done in cases of poisoning by narcotics) is the object of the Brand bath. But day by day, with occasional disappointments, a fifth, or a quarter, or a half degree of temperature is gained; the heart maintains its vigor, the kidneys increase their work, the stomach receives more kindly the proffered nourishment; sleep is won.

By this method the enemy cannot be routed, the disease cannot be shortened, but we hold his ravages in check surely and completely until his reinforcements fail. The bacterial life period reaches its end, the toxins cease to be evolved, and at last the physician stands conqueror of this deadly enemy. This is the true aim, the correct rationale of the Brand bath. Were temperature reduction the chief need, we would have the key to the situation in our splendid coal-tar antipyretics; were pulse reduction the desideratum, veratrum viride would prove an open sesame; were nourishment the chief object, there is no lack of this in modern culinary and chemical art. But all these are as naught in the face of a toxemia which overwhelms the nerve-centers of the most robust as well as the most feeble patients. To wrap the patient in a sheet and then sprinkle him with ice-water, as was done in the case cited, is a deviation from the correct technic of the typhoid fever bath. Such a procedure does not fulfill the main object of arousing the nervous system. After the first shock has passed, no opportunity is given for reaction, because the sprinkling of ice-water continues, the cutaneous vessels and elastic tissue of the true skin contract, as evidenced by cutis anserina; the extreme cold imparted by the wet sheet, without remission, benumbs the sensory nerves and thus impedes the transmission of the shock and subsequent stimulus, even if the latter has ensued in an exceptionally strong individual. This faulty technic frustrates completely the true aim of the cold bath. The surface temperature is, indeed, reduced by this improper method, but the blood is driven to the interior, congestions are favored, the organs are overloaded, and the patient emerges from such a bath (save the mark!), a shivering, cyanosed, weakling. The ideal results obtained by Brand and others in 1200 cases, without mortality, can only be realized by following the exact technic of Brand.

Dr. Baruch claimed that physicians have failed to obtain ideal results, because they deviated from the ideal technic, each one modifying it to suit his own fancy. He insisted that to the free deviation from its correct technic may be ascribed the lack of appreciation of the therapeutic value of the Brand method. Those physicians

who have mastered its technic will agree with Prof. Delafield, who teaches that immersion in cold water is the only real treatment of typhoid fever, and the only way to practice this treatment is the exact method of Brand. In the treatment of all diseases our teachers insist upon correct dosage of medicinal agents, the exact time and mode of their administration, frequency of repetition, and even their exact preparation. Similar care and attention should be given to the prescription of water as a remedy.

In chronic diseases a correct application of water is quite as important as in the acute. A prescription for a bath or other hydropathic procedure, without exact statement of temperature, duration, pressure, and method, is as absurd as a prescription for a medicine without stating dose and method of administering. The import of pressure, temperature, and duration of every hydropathic procedure requires to be impressed with emphasis. Every physician realizes the difference of effect arising from different temperatures, and yet we commonly read directions for cold, hot, or tepid baths. By gradually accustoming tuberculous patients to lower temperatures and stronger pressure, very favorable results have been obtained in private and hospital practice. If low temperatures are used at once the patient is shocked and depreciated. The same may be said of neurasthenic and other chronic cases, in which Dr. Draper was cited as claiming that "the results of hydrotherapy are striking, but more effective than medicine."

The author especially inveighed against the gradually cooled bath, which is intended to avoid shock and be pleasant to the patient. Such a bath does not fulfill its object properly, because the surface vessels are relaxed by the warm water; reactive capacity is diminished by its calming and sedative effect. The vaso-constrictors are depressed. The subsequent cooling of the water finds the sensory nerves unprepared, and chilliness usually results unless the patient be more robust than is the average neurasthenic. It is unhappily a very prevalent error to regard the most agreeable bath as the most salutary. We do not so reason in the application of medicinal agents, of electricity, or diet. And the application of water may be made agreeable by gradually accustoming the patient to lower temperatures, slowly reducing them every day or two, making the application brief at first, and increasing the duration and pressure day by day. The prime essential, however, should always be borne in mind, that reaction is our aim, that this cannot be evoked without some shock, that the more intense the latter the more effective the reaction, but the more brief it is, the less unpleasant. If the physician bear in mind that his object in treating such a case is an increase of the quantity of blood circulating in the cutaneous vessels, an enhancement of the nutrition, a stimulus to the entire nervous system, he will endeavor to so order the technic, provided he has mastered its details, so that day by day the reactive capacity may be elevated. As the shock and reaction increases day by day, the patient will emerge from the treatment with a ruddy hue. The increased circulation will endure more and more every day, languor

and loss of appetite will cease, and if the patient does not fully recover under this domestic treatment, douches of the same temperature and with a pressure of twenty-five to thirty pounds, preceded or not by hot-air baths, will bring about a final restoration of health.

In acute cases like typhoid fever, which are under constant observation of the physician, the latter may at once note the result of an improper use of water and modify it, or, as is more often the case, relinquish it altogether. But in chronic cases much damage may be done before the physician discovers it, if the treatment be not in the hands of trained and intelligent attendants who are under medical supervision. Too often the details are left to nurses, because physicians have not received instruction in the *rationale* and technic.

Dr. Baruch concluded by saying:

First. That the therapeutic application of water demands at least as much care as the use of medicinal agents.

Second. That, owing to the flexibility of water as a remedial agent, greater demands are made upon the practitioner than in the use of medicines.

Third. That the best results may be obtained only by following an exact technic in each case.

Fourth. That the reason that different results are obtained by different physicians from the application of water may be found in the technical errors committed on account of an erroneous conception of the *rationale* of hydrotherapy.

DISCUSSION.

DR. I. ADLER said that in the most modern medical view hydrotherapy plays an important rôle, and that, as Dr. Baruch had emphasized, the application of water is so lax that, clinically and diagnostically, much less is accomplished than would otherwise be. But this is not alone the fault of physicians, but, perhaps, as much of those who specially cultivate hydrotherapy. The latter seems to be based more on personal impressions than scientific data. We cannot accept water, therefore, on the same basis as our medicinal agents. As an example, the physiologic action of strychnin upon the spinal cord is exactly known, but of water we cannot say this. There should be a knowledge of the physiologic action of water ere we are asked to accept it as a scientific remedy.

Dr. Adler thought it is going too far to accept the baths as the only remedy in typhoid. To him the statistics cited by Dr. Baruch, to prove that the mortality has been reduced to almost nothing, are new. He had used the baths more in hospitals than in private practice, where the treatment is more difficult to apply. One may have very good results without baths, although the latter are one of our very best agents where the heart is feeble, delirium is intense, and somnolence occurs. He could not accept Brand's rule, supported by Dr. Baruch, that 102° F. should be the signal for baths. Some patients become delirious at 100.5°; others may have a temperature 105° F. and not be delirious. He also expressed confidence in small doses of antipyretics, which afford much relief, although he did not approve of their routine application for temperature reduction.

DR. L. WEBER had always used cold baths in typhoid in the absence of kidney complications. He begins the treatment with a large dose of calomel to clean the intestinal tract and disinfect it. In private practice he had not often had an opportunity of applying the Brand method. There seems to be a silent but active opposition to it among the nurses. There is no doubt that Brand's method offers great advantages, and is specially adapted for enhancing the resisting capacity of the nervous system. He used antipyretics in small doses for temperature reduction. In neurasthenia he had seen much of hydrotherapy. It seemed to him, however, that many of these cases recover under any treatment.

DR. A. ROSE opposed Dr. Adler's views that hydrotherapy was not based upon sufficient scientific investigations and experiments. It would seem that the statements of quacks are more regarded than these scientific experiments. He referred to the plethysmograph of Winternitz, by which the passage of blood, driven from one part of the body by cold baths, was demonstrated in other parts. Dr. Rose referred to his experience in erysipelas, and his observations with the permanent baths in obstinate rheumatism.

DR. A. SEIBERT believed that the complaints made by hydrotherapists, that their doctrines have not been generally accepted by the medical profession, are to be charged to their own writings, in which they use many hyperboles. The Brand bath is not responsible for the reduction of mortality of typhoid fever during the past thirty years; it is due to the general improvement in the treatment of the disease. A large acquaintance with statistics enabled him to say that many sins are committed with statistics. In his hospital practice he uses the Brand method only on patients who are received in a somnolent condition. He prefers to reach the seat of the disease by cleaning and bathing the intestinal tract rather than to cool the skin and then excite the nervous system. He regards as novel the claim that the early adoption of the Brand method is capable of affording absolute protection against complications.

DR. TALMEY believed that one reason for the non-acceptance of hydrotherapy lies in the objections of the public; another reason lies in the insistence of the hydrotherapist upon so many details, which no ordinary man is presumably as capable of executing as they.

DR. BARUCH closed the discussion by insisting that the proof exists showing that the action of water is more rational and scientific than that of any other remedy. Very little is known of the action of strychnin in non-toxic doses. It may be administered for days, weeks, and months without any subjective or objective evidence of its presence, in the pulse, blood pressure, respiration, etc. Of water we know much more. It may be dosed with precision afforded by a latitude of seventy degrees of temperature (35 to 110), a duration of a second to many minutes, a pressure of from one to forty pounds. We also have various methods of applying it (by packs, baths, douches, etc.), by which its effects may be graded. A few days ago he subjected an attendant in the Hydriatric Institute to a tub bath of 80° F., for ten

minutes. The effect was at once pronounced upon the pulse, as ascertained by the finger and the sphygmograph; the blood count showed an increase of 700,000 red cells and 1500 white cells in blood drawn from the lobe of the left ear. Is any analogous experiment with non-toxic doses of strychnin on record? So far from there being a lack of scientific experiment regarding the action of water, many have been made within the past five years, in Zunt's and other laboratories by Breitenstein, Loewy, Knoepfelmacher, and others. Thayer, of Johns Hopkins Hospital, has confirmed the statements of Winternitz and Rowighi, that the red and white blood-cells increase after cold-water applications; the sphygmomanometer has demonstrated that the force of the heart is increased by them; Vinaj has shown with exactness by the ergograph of Mosso how the muscular power is enhanced by them; Roque and Weil have shown that the urotoxic coefficient of the urine in typhoid fever is manifoldly increased after the use of the cold bath.

That early cold baths prevent complications has been demonstrated as no fact in medicine has been demonstrated before. Dr. A. Vogl, Medical Director of the Bavarian Army, has collected from the records of the Military Hospital of Munich all the cases of typhoid fever which were treated during a period of forty years in this hospital. He gives the type of the disease each year, the symptoms, the treatment, mortality, and results of autopsy. Since the strict bath treatment was adopted he found the mortality reduced to 2.7 per cent., while under other methods of treatment it had ranged from fifteen to thirty per cent. This proves that the result is not due to a change of type in the disease, which the records show to have varied from year to year during this long period, but that it is entirely the result of the bath treatment which prevented lethal complications. Although the Brand method must be applied before the fifth day, every fever patient may be bathed with advantage. Dr. Baruch stated that he invariably uses it in private practice; that he declines to treat the patient otherwise, and that he has been dismissed from a case but once for this reason.

Contrary to Dr. Talmey's naive accusation, modern hydrotherapists have taken pains to simplify hydrotherapy and make it the common property of physicians. But this cannot be accomplished so long as the latter persist in their skeptical attitude. The most superficial study will demonstrate that water produces a thermic and mechanical excitation of the cutaneous nerve endings which operate upon motor and sensory tracts as a reflex upon the circulation, respiration, and secretions. These demonstrations are so abundant in literature that he would regard it as an insult to the intelligence of his audience to reiterate them.

That a woman may be aroused from syncope by the simple sprinkling of cold water upon the face, is known to almost every lay person, and the scientific explanation of this process is recognized by every tyro in medicine to be a powerful irritation by cold, which is conveyed from the cutaneous nerves to the central nervous system, and thence by reflex to the vagus. This seems, perhaps, too simple. Rabbits and guinea pigs are not required for

the "scientific" explanation of this powerful effect. If such sacrifices are demanded, however, to establish water as a scientific remedy, the classical experiment of Maximilian Schüller upon trephined rabbits may be offered. Schüller exposed the vessels of the pia, and placing the rabbits in water at different temperatures, observed the effects of these applications on the animals. He demonstrated more clearly than has ever been done in the study of any medicinal agent the effect of these water applications. He showed conclusively that the latter called into action a hydrostatic effect, which makes water a powerful agent for influencing the circulation of blood in an animal. Besides, Winternitz and others have demonstrated in the most exact manner, by laboratory experiments, that the corpuscular elements of the blood are subjected to such decided changes by water applications that no medicinal agent is capable of approaching their effects.

To Dr. Talmey's insinuation that hydrotherapists are so insistent upon details that it is difficult for an ordinary mortal to follow their directions, Dr. Baruch replied by protesting against the tendency of physicians to leave the water treatment of chronic cases to bath attendants, or other nurses who claim to know all about it, but really do not know anything but the mechanical part. Does not every physician who orders a cold bath in typhoid fever give the nurse directions regarding temperature, friction, drying, duration, etc.? Why, then, should physicians leave such important details to a nurse when ordering a wet pack, douche, etc., for a chronic case? Would it not be far easier for physicians to consult some work on this subject and use their own judgment in ordering the necessary temperature, duration, etc.? It is just as absurd to leave these important details to self-important bath nurses as it is to leave the doses of a medicine to the druggist to prescribe and administer. Indeed, the latter would be safer, because the druggist is, at least, an educated man. As Vogl has said, leaving the treatment entirely in the hands of lay people has brought hydrotherapy into disrepute.

That the hydrotherapists "resort to many hyperboles in their writings and lectures" may, as Dr. Seibert states, be true. But the most eminent physicians also resort to "hyperboles" when they have mastered hydrotherapy and applied it correctly.

Dr. Baruch said that he might quote many "hyperboles" from the writings and lectures of the most eminent clinical teachers. These gentlemen have not been deterred by the "hyperboles of the hydrotherapists." They have investigated the subject, as have Delafield, Peabody, Osler, and Draper in our own country, and have become consistent advocates.

One thing Dr. Baruch desired especially to emphasize, namely, that in his article, as in all his writings, he has never lauded water as a universal remedy. He claimed that his observations in hydrotherapy were gathered in the capacity of family and hospital physician, in which respect he stands alone. As a practitioner of thirty-five years' standing, he did not feel prepared to throw aside calomel, salicylic acid, morphin, quinin, and other approved remedies. Despite this fact he felt compelled to acknowledge that

water has served him well in the most desperate chronic cases after other most approved remedies had failed in his own hands as well as in the hands of colleagues. For this reason he would say with Pindar, ἀριστον μὲν ὄδωρ. And herein he felt himself sustained by the most eminent clinicians of the present time, whose opinions he desired to impress upon his colleagues.

REVIEWS.

A HANDBOOK OF PATHOLOGICAL ANATOMY AND HISTOLOGY, WITH AN INTRODUCTORY SECTION ON POST-MORTEM EXAMINATION AND THE METHODS OF PRESERVING AND EXAMINING DISEASED TISSUES. By FRANCIS DELAFIELD, M.D., and T. M. PRUDDEN, M.D. Fifth edition. Illustrated by 365 wood engravings; printed in black and colors. New York: Wm. Wood & Co.

IN the preface to the fifth edition of their work, the authors reiterate the statement that it has been their intention to give to students and practitioners of medicine the knowledge necessary for the making of autopsies, the preservation of tissues, and their preparation for microscopic study, and to outline the methods of study of pathogenic micro-organisms; and, to describe concisely, with such illustrations as seem necessary, the lesions of the active infectious diseases, and, so far as they are known, the microorganisms concerned in their causation, the various phases of degeneration and inflammation, the character of tumors, the special lesions of different parts of the body, of the general diseases, of poisoning, and of violent death. The general plan and make-up of the book has not been changed in this last edition, and what has been said in praise of it heretofore might be said again, for more than ever does it deserve such laudation.

The section on *post-mortem* examination is, considering the small space allotted to it, very satisfactory; that devoted to general methods of preserving pathological specimens and preparing them for study is less so. When we say that no mention is made of a method of staining that is probably used by every pathologist to-day, namely, that of Mallory, we shall have made our reasons for this statement clear. The section on the blood has been rewritten by Dr. James Ewing, and it is a fairly accurate reflection of the views of those who have made their names familiar to all students of blood pathology. A beautifully executed plate lends color and value to this chapter. The chapters on inflammation have been subjected to revision, but to no very great change. That on animal parasites is practically unchanged, and we miss mention, either by word or picture, of the *anchylostoma duodenale*, which for a time it was believed, was found only in certain parts of Europe and the Orient, but which it is now absolutely certain occurs in this country. The chapter on vegetable parasites is a most commendable one.

The authors frequently adopt an attitude of reserve toward many questions on which other equally gifted pathologists are frequently dogmatic. We may cite, for instance, the statement that "it seems probable from

what we know at present that several forms of bacteria are capable of causing acute cerebrospinal meningitis." To us, if we understand that reference is made to the epidemic form, this seems highly improbable, and the more carefully the evidence at hand is subjected to critical examination the more does it appear that the *diplococcus intracellularis meningitidis* is the real cause of the disease when it prevails epidemically.

The section devoted to the diseases of the nervous system is the least satisfactory one in the book. Many diseases on which the student and the practitioner need very much light, such as the primary systemic diseases of the spinal cord, simple and combined, are not mentioned, and we are very doubtful that it is of the least service to endeavor to convey to the student's mind the essential pathological features of amyotrophic lateral sclerosis by saying that "degenerative changes of both the central motor neurons from the brain to the cord, and of the peripheral motor neurons from the motor cells of the cord to the muscles, may be diseased, and these conditions determine a replacement fibrous hyperplasia in the lateral column, and also in the anterior cornua of the spinal cord." This condition has been called "amyotrophic lateral sclerosis," even though this be accompanied by a picture. Quite as much as this may be obtained from the study of any good dictionary. Such important subjects as progressive spinal muscular atrophy and bulbar paralysis, are given three lines, while malformations of the cord are given as many pages. We are glad to turn from the nervous system to the respiratory and vascular systems. Here the authors write with a clearness and certainty that comes from long familiarity with the subject and from positive convictions.

The reputation which previous editions of this work made for its authors will be enhanced by the present one. The mechanical part of the volume is very satisfactory.

ATLAS UND GRUNDRISSE DER VERHANDLUNG. Von DR. ALBERT HAFFA, Privatdocent für Chirurgie an der Universität Würzburg. München: J. Lehman, 1897.

THE author of this handbook of bandaging is well known as an orthopedic writer of prominence. The text of this work does not differ much from similar works, except in its completeness and in the beauty of its illustrations. These are all copies of photographs and enhance the value of the book immensely, while they elucidate the text much better than photographs usually do. As a thorough exposition of the art of bandaging, the book may be heartily recommended.

REPORT OF THE COMMISSIONER OF EDUCATION FOR THE YEAR 1894-95. Vol. i, part i. Washington: Government Printing Office, 1896.

THIS report contains a large amount of statistical and other information concerning primary and higher education in the United States and Europe, with a special report on the higher education of women, and on the Chautauqua Assembly. The student of pedagogy will find in this volume a fund of information.